John Adams Esqr — from his sincere old friend the Author

SIX INTRODUCTORY LECTURES,

TO

COURSES OF LECTURES,

UPON THE

INSTITUTES AND PRACTICE

OF

MEDICINE,

DELIVERED IN THE

UNIVERSITY OF PENNSYLVANIA.

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PREFACE.

THE following lectures are committed to the press, in consequence of promises made to many of the members of the classes who heard them, soon after their delivery. Some facts are added, some sentences are omitted, and a few remarks are repeated, in several of the lectures. The repetitions will be excused, when the reader observes, they were delivered in successive years, to different classes.

CONTENTS.

LECTURE I.

ON THE NECESSARY CONNECTION

BETWEEN

OBSERVATION AND REASONING

IN

MEDICINE,

DELIVERED NOVEMBER 7th, 1791.

GENTLEMEN,

I SHOULD do great violence to my feelings, should I proceed to the subjects of the ensuing course of lectures, without first congratulating you upon the union of the two medical schools of Philadelphia, under a charter founded upon the most liberal concessions, by the gentlemen who projected it, and upon the purest principles of patriotism in the legislature of our state. By means of this event, the ancient harmony of the different professors of medicine will be restored, and their united labours will be directed, with accumulated force, towards the advancement of our science.

By the distribution of the various branches of medicine, into so many different professorships,

we claim, for the first time, an equality in the objects of medical education, with the oldest universities in Europe.

It is true the expenses of an education in medicine, will be somewhat increased by the present extensive mode of conducting it, but its advantages will be increased in the same proportion, and they will still be one third less, without including the sums expended for two voyages across the ocean, than they are in the university of Edinburgh.

In comparing a medical education in an American, with that which is given in an European seminary, I cannot forbear mentioning two things, in favour of the former, which should always give it a preference in the mind of an American student. In the first place, he will here study the diseases of the country in which he is to practise. Climate aliment, manners, and states of society have so much influence upon the characters of diseases, that they seldom appear in the same forms, or yield to the same remedies, in different countries. And, secondly, from the character of our domestic diseases thus known, he will be able, more readily, to deviate, when it is proper, from European systems of medicine, and to adopt principles which are founded upon the signs of diseases in his own country.

The arduous business assigned me in the new arrangement of professorships, is to teach the institutes of medicine, and to illustrate them by clinical

lectures upon such diseases as may occur in the Pennsylvania hospital during the winter.

In order to understand the nature and importance of this branch of medicine, I shall detain you a few minutes from the objects of our course, while I deliver a few remarks upon the theory and practice of physic, considered as distinct parts of a medical education. The time thus employed will not be mispent, for I well know, from my own experience, how much prejudice and error there are upon those subjects among students of medicine.

Physicians have been divided into empirics and dogmatists. The former pretend to be guided by experience, and the latter by reasoning alone in their prescriptions. I object to both when separately employed. They lead alike to error and danger in the practice of physic. I shall briefly point out the evils which result from an exclusive reliance upon each of them.

1. Empiricism presupposes a correct and perfect knowledge of all the diseases of the human body, however varied they may be in their symptoms, seats, and force, by age, habit, sex, climate, season, and aliment. Now, it is well known, that the longest life is insufficient for the purpose of acquiring that knowledge. This will appear more evident, when we consider that it must be seated, exclusively, in the memory; a faculty which is the most subject to decay, and the least faithful to us of any of the faculties of the mind. Few physicians, I believe, ever recollect, perfectly, the phe-

nomena of any disease more than two years, and, perhaps, for a much shorter time, when they are engaged in extensive business.

2. Neither can the defect of experience, nor the decay, or weakness of the memory in one physician, be supplied by the experience and observations of others. Few men see the same objects through the same medium. How seldom do we find the histories of the same disease, or of the effects of the same medicine to agree, even when they are related by physicians of the most respectable characters for talents and integrity! An hundred circumstances, from the difference of treatment, produce a difference in the symptoms and issue of similar diseases, and in the operation of the same medicines. The efforts of nature, are, moreover, often mistaken for the effects of a favourite prescription; and, in some instances, the crisis of a disease has been ascribed to medicines which have been thrown out of a window, or emptied behind a fire.

3. If it were possible to obviate all the inconveniences and dangers from solitary experience which have been mentioned, an evil would arise from the nature of the human mind, which would defeat all the advantages that might be expected from it. This evil is a disposition to reason upon all medical subjects, without being qualified by education for that purpose. As well might we attempt to controul the motions of the heart by the action of the will, as to suspend, for a moment,

that operation of the mind, which consists in drawing inferences from facts. To observe, is to think, and to think, is to reason in medicine. Hence we find theories in the writings of the most celebrated practical physicians, even of those who preface their works by declaiming against idle and visionary speculations in our science; but I will add, further, that I believe no empiric ever gave a medicine without cherishing a theoretical indication of cure in his mind. Some acrid humour is to be obtunded, some viscid fluid is to be thinned, some spasm is to be resolved, or debility in some part of the body is to be obviated, in all his prescriptions.

To an exclusive reliance upon theory in medicine, there are an equal number of objections. I shall only mention a few of them.

1. Our imperfect knowledge of the structure of the human body, and of the laws of the animal economy.

2. The limited extent of the human understanding, which acquires truth too slowly to act with effect, in the numerous and rapid exigences of diseases.

3. The influence of the imagination and passions, upon the understanding in its researches after truth. An opinion becomes dear to us by being generated in our imaginations; and contradiction, by inflaming the passions, increases our attachment to error. It is for these reasons, we observe great, and even good men, so zealously

devoted to their opinions, and the practice founded upon them, even after they have been exposed and refuted by subsequent discoveries in medicine.

From this view of the comparative insufficiency of experience and theory, in our science, it will be impossible to decide in favour of either of them in their separate states. The empirics and dogmatists have mutually charged each other with the want of successful practice. I believe them both, and will add, further, if an inventory of the mischief that has been done by empirics, within the present century, whether they acted under the cover of a diploma, or imposed upon the public by false and pompous advertisements, could be made out, and compared with the mischief which has been done by a practice in medicine, founded upon a belief in the archeus of Van Helmont, the anima medica of Stahl, the spasm of Hoffman, the morbid acrimonies of Boerhaave, the putrefaction of Cullen, and the debility of Brown, as the proximate causes of diseases, I am satisfied neither sect would have any cause of exultation, or triumph. Both would have more reason to lament the immense additions they have made to pestilence and the sword in their ravages upon the human race.

It is peculiar to man, to divide what was intended by the Author of nature to be indivisible. Religion and morals, government and liberty, nay, even reason and the senses, so happily paired by the Creator of the world, in the order in which they

have been mentioned, have each been disunited by the caprice and folly of man. The evils which have arisen from this breach in the symmetry of the divine government cannot now be enumerated. It belongs to our present subject, only to take notice that the same hostile disposition in the human mind, to order and utility, appears in the attempts that have been made to separate experience and reasoning in medicine. They are necessarily united, and it is only by preserving and cultivating their union, that our science can be made to convey extensive and lasting blessings to mankind.

The necessity of combining theory and practice in medicine, may be illustrated, by the advantages which other sciences have derived from the union of principles and facts. The numerous benefits and pleasures we enjoy from the glasses which have been made use of to extend our vision to distant and minute objects, are the results of a knowledge of the principles of optics. The many useful inventions which are employed to shorten and facilitate labour, are the products of a knowledge of the principles of mechanics and hydraulics. The exploits of mariners in subduing the ocean, and all the benefits that have occurred to the world from the connection of the extremities of our globe by means of commerce, are the fruits of a knowledge in the principles of navigation. Equally great have been the advantages of theory in the science of medicine. It belongs to theory to accu-

mulate facts; and hence we find the greatest stock of them is always possessed by speculative physicians. While simple observation maybe compared to a power which creates an alphabet, theory resembles a power which arranges all its component parts in such a manner, as to produce words and ideas. But theory does more. It supplies in a great degree the place of experience, and thereby places youth and old age nearly upon a footing in the profession of medicine; for, with just principles, it is no more necessary for a young physician to see all the diseases of the human body before he prescribes for them, than it is for a mariner, who knows the principles of navigation, to visit all the ports in the world, in order to conduct his vessel in safety to them.

To illustrate still further the benefits of theory, I shall take notice of its influence upon the use of several celebrated and popular remedies.

Accident probably first suggested the use of cool air in the cure of fevers. For many years it was prescribed indiscriminately in every form and grade of those diseases, during which time it did as much harm as good. It was not until chymistry taught us that its good effects depended wholly upon its abstracting the heat of the body, that its application was limited to those fevers only, which are accompanied with preternatural heat, and excessive action in the blood-vessels. Since the use of cool air has been regulated by this principle, its effects have been uniformly salutary in inflammatory fevers.

While the Peruvian bark was believed to act as a specific in the cure of intermittents, it was often an ineffectual, and sometimes a destructive medicine; but since its tonic and astringent virtues have been ascertained, its injurious effects have been restrained, and its salutary operation extended to all those fevers, whether intermitting, remitting, or continual, in which a feeble morbid action takes place in the sanguiferous system.

Opium was formerly used only as an antidote to wakefulness and pain, during which time it often increased the danger and mortality of diseases; but since its stimulating virtues have been discovered, its exhibition has been regulated by the degree of excitement in the system, and hence it is now administered with uniform safety, or success.

Mercury was prescribed empirically for many years in the cure of several diseases, in which it often did great mischief; but since it has been discovered to act as a general stimulant and evacuant, such a ratio has been established betweeen it, and the state of diseases, as to render it a safe and nearly an universal medicine.

In answer to what has been delivered in favour of the union of experience and reasoning in medicine, it has been said, that the most celebrated physicians, in all ages, have been empirics; among whom they class Hippocrates and Sydenham. This charge against the illustrious fathers of ancient and modern medicine is not just, for they both reasoned upon the causes, symptoms, and cure of diseases;

and their works contain more theory, than is to be met with in many of the most popular systems of medicine. Their theories, it is true, are in many instances erroneous; but they were restrained from perverting their judgments, and impairing the success of their practice, by their great experience, and singular talents for extensive and accurate observation. This defence of Hippocrates and Sydenham does not apply to common empirics. They cure only by chance; for, by false reasoning, they detract from the advantages of their solitary experience. It is true, they often acquire reputation and wealth, but this must be ascribed to the credulity of their patients, and to the zeal with which they justify their preference of such physicians, by multiplying and exaggerating their cures, or by palliating, or denying their mistakes. It is for this reason that it has been well said, "Quacks are the greatest lyars in the world, except their patients."

We are further told, in favour of empiricism, that physicians of the first character have acknowledged the fallacy of principles in medicine. I cannot assent to the truth of this assertion. It is contradicted by the history of our science in all ages and countries. The complaints of its fallacy, and even of its uncertainty, originate, I believe, in most cases, in ignorance, indolence, or imposture; and therefore were never uttered by men of eminence and integrity in our profession.

In the progress of medicine towards its present state of improvement, different theories or systems

have been proposed by different authors. You will find a minute and entertaining account of such of them as have been handed down to us from antiquity in Dr. Black's History of Medicine. They are all necessarily imperfect, inasmuch as none of them embraces the numerous discoveries in anatomy, physiology, chymistry, materia medica, and natural philosophy, which have been made within the two last centuries in Europe. The systems which divide the physicians of the present day, are those of Dr. Stahl, Dr. Boerhaave, Dr. Cullen, and Dr. Brown.

1. Dr. Stahl lived and wrote in a country remarkable for the simplicity of the manners of its inhabitants. Their diseases partook of their temperate mode of living, and were often cured by the operations of nature, without the aid of medicine; hence arose Dr. Stahl's opinion of the vires naturæ medicatrices, or of the existence of an anima medica, whose business it was to watch over the health of the body. We shall shew, therefore, the error of these supposed healing powers in nature, and the extreme danger of trusting to them in the dangerous and complicated diseases, which are produced by the artificial customs of civilized life.

2. Dr. Boerhaave lived and wrote in a country in which a moist atmosphere, and an excessive quantity of unwholesome aliment, had produced an immense number of diseases of the skin. These were supposed to arise from an impure state of the

blood, and hence lentor, tenuity, and acrimony in that fluid were supposed to be the proximate causes of all the diseases of the human body.

3. Dr. Cullen lived and wrote in a country in which indolence and luxury had let loose a train of diseases which appeared to be seated chiefly in the nervous system, and hence we find the laws of that system have been investigated and ascertained by him with a success which has no parallel in the annals of medicine. In his concentrated views of the nervous system he has overlooked, or but slightly glanced at the pathology of the blood-vessels, and by adopting the nosology of Sauvage, Linnæus, and Vogel, he has unfortunately led physicians to prescribe for the names of diseases, instead of their proximate cause.

4. In the system of Dr. Brown, we find clear and consistent views of the causes of animal life, also just opinions of the action of heat and cold, of stimulating, and what are called sedative medicines, and of the influence of the passions in the production and cure of diseases. But while he has thus shed light upon some parts of medicine, he has thrown a shade upon others. I shall hereafter take notice of all the errors of his system. At present I shall only say, I shall not admit with him, debility to be a disease. It is only its predisposing cause. Disease consists in morbid excitement, and is always of a partial nature: of course I shall reject his doctrine of equality of excitement in the morbid states of the body, and maintain, that

the cûre of diseases consists simply in restoring the equal and natural diffusion of excitement throughout every part of the system. If Dr. Cullen did harm by directing the attention of physicians, by means of his nosology, only to the names of diseases, how much more mischief has been done by Dr. Brown by reducing them nearly to one class, and accommodating his prescriptions to the reverse state of the body, of that which constitutes their proximate cause.

A perfect system of medicine may be compared to a house, the different stories of which have been erected by different architects. The illustrious physicians who have been named, have a large claim upon our gratitude, for having, by their great, and successive labours, advanced the building to its present height. It belongs to the present and future generations to place a roof upon it, and thereby to complete the fabric of medicine.

In the following course of lectures I shall adopt such principles of Dr. Boerhaave, Dr. Cullen, and Dr. Brown, as I believe to be true, and shall add to them such others, as have been suggested to me, by my own observations and reflections.

If, in delivering new opinions, I should be so unfortunate as to teach any thing, which subsequent reflection or observation should discover to be erroneous, I shall publicly retract them. I am aware how much I shall suffer by this want of stability in error, but I have learned from one of my masters to " esteem truth the only knowledge,

and that labouring to defend an error, is only striving to be more ignorant*."

Upon those parts of our course on which I am unable to deliver principles, I shall lay before you a simple detail of facts. Our labour in this business will not be lost, for, however long those facts may appear to lie in a confused and solitary state, they will sooner or later unite in that order and relation to each other which was established at the creation of the world. From this union of pre-related truths, will arise, at some future period, a complete system of principles in medicine.

We live, gentlemen, in a revolutionary age. Our science has caught the spirit of the times, and more improvements have been made in all its branches, within the last twenty years, than had been made in a century before. From these events, so auspicious to medicine, may we not cherish a hope, that our globe is about to undergo those happy changes, which shall render it a more safe and agreeable abode to man, and thereby prepare it to receive the blessing of universal health and longevity; for premature deaths seem to have arisen from the operation of that infinite goodness which delivers from evils to come.

The institutes of medicine have been divided into physiology, pathology, and therapeuticks.

I. Physiology includes the history of the functions of the human body in its healthy state. In

* Dr. Cullen.

our lectures upon it, I shall suppose you to be acquainted with the structure of the body, and shall of course spend as little time as possible in anatomical descriptions. I shall include the faculties of the mind in this part of our course, and shall endeavour to explain their operations in a manner so simple, as to make them intelligible to the youngest student of medicine.

II. Pathology has for its objects, the remote, exciting, and proximate causes of diseases. I shall depart from the order of Dr. Gregory, in his Conspectus Medicinæ Theoreticæ, by separating this part of our course from the physiology. In doing so, I shall imitate those divines, who first consider the faculties of the mind in their perfect state in the garden of Eden, before they describe the changes that have been induced in them by the loss of primeval innocence.

III. The therapeuticks will contain an account of the operation of remedies in the cure of diseases.

IV. The clinical lectures will form a material part of our course. To render them as useful as possible, I shall begin by delivering a few remarks upon the method of visiting and examining sick people. I shall then proceed to point out the usual signs of diseases, as they appear in every part of the body, and more especially, as they are discovered by the pulse. I shall afterwards exemplify these preliminary remarks in the public examination and treatment of such cases in the

hospital as afford the most practical instruction. An exact account shall be kept in the English language, of the diseases and remedies of the clinical patients, and a report made of them twice a week from this chair. As soon as the issue of the cases is known, they shall become the subjects of clinical lectures*.

Here, gentlemen, I intended to have concluded my introductory lecture. But after reviewing what I have delivered, I am forced to declare, and that too without the least affectation of modesty, that I have given the outlines of what a course of lectures, upon the institutes of medicine and clinical practice, *should be*, and not what it *will be*, in my hands. A zeal to promote the union and interests of our medical schools, has, I fear, been mistaken by me, for knowledge and talents, equal to my present understanding. I feel my incapacity for it. The physiological controversies, which compose so great a part of the medical instruction given in all universities, have, for many years, been wearing out of my mind, and I have yet much to learn of the discoveries and improvements of modern times in that branch of medicine. But whatever may be the issue of my present attempt, I shall continue to assert, should I fail of fulfilling your wishes, that principles in medicine, are the only safe and certain guide to successful practice.

* A syllabus of these lectures, with the additions to it, which became necessary after the author undertook to teach the practice of physic, is subjoined to this lecture.

SYLLABUS

OF A

COURSE OF LECTURES,

UPON

PHYSIOLOGY, PATHOLOGY, THERAPEUTICKS, AND THE PRACTICE OF MEDICINE.

PART I.

OF PHYSIOLOGY.

CHAPTER I.

INTRODUCTION.

Of animal life.
Of animal heat.
Of respiration.
Of the causes of coughing.
sneezing.
yawning.
laughter and crying.
Of voice and speech.
Of the circulation of the blood.
Of the nervous system.
Of impression, sensation and motion.
Of the senses.
Of the faculties and operations of the mind.
Of pleasure, as derived from the senses, and its proximate cause.

Of pleasure, as derived from the exercises of the mind, and its proximate cause.

Of sleep and dreams.

CHAPTER II.

Of aliment.

Of hunger.

Of mastication.

Of digestion.

Of the chyle.

Of the blood.

Of the lacteals, and lymphatics.

Of the secretions, and excretions.

Of nutrition.

CHAPTER III.

Of the peculiarities of the male and female body and mind.

Of menstruation, generation, conception, and parturition.

Of the different stages of life.

Of health.

Of the natural and artificial analysis of the solids and fluids of the body.

Of the frailty of the human body, and the impossibility of obviating its decay, and dissolution, by any remedy or mode of living.

PART II.

PATHOLOGY.

INTRODUCTION.

OF the proximate cause of disease, and the origin of moral and natural evil.

Of disorders, and the difference between them, and disease.

Of the different forms of morbid excitement, and of its translation from one part of the body to another.

Of the unity of disease.

Of the remote, predisposing, and exciting causes of diseases.

I. Of the remote causes of diseases.

1. From the sensible and insensible qualities of the air, from which are derived epidemic diseases.
2. Of the laws of epidemics.
3. Contagions.
4. Poisons.
5. Light and sounds.
6. Aliments, condiments and drinks.
7. Dress.
8. Foreign matters introduced into the system; such as,
    (a) Worms,

(b) Anomalous substances taken into the alimentary canal, lungs, nose and skin.

9. Anomalous substances applied to the external surface of the body.
10. Retained excretions.
11. Motion and rest, sleep and watchfulness in excess.
12. Improper exercise of the faculties of the mind and of the venereal appetite.
13. Different situations.
14. .... states of society.
15. .... governments.
16. .... religions.
17. .... employments.
18. .... amusements.
19. Peculiar customs.
20. Unhealthy ancestors.
21. An injudicious confidence in the operations of nature, in false systems of medicine, and in quacks.
22. The imprudent or habitual use of remedies without, or by the advice of a physician.
23. Sympathy and antipathy.
24. The influence of the moon.
25. Association of ideas and motions.
26. The effects of certain original diseases or symptoms of diseases.
27. Injuries from falls, and external violence applied to the body.

28. Submersion, and other accidents which suspend animation.
29. Time.

II. The predisposing causes of diseases are natural and artificial; those which are natural, occur in

(a) Different ages, as in,
1. Infancy.
2. Childhood.
3. Puberty.
4. Adolescency and manhood.
5. The period in which the arterial, yields to the venous plethora.
6. Old age.

(b) In different conditions of the system, as in
1. Different temperaments.
2. Different conditions of the system, in single and married life.
3. Pregnancy.
4. The period of the cessation of the menses.
5. Deformity in size or configuration of the whole, or any part of the body.
6. Congenial weakness of a part, or of the whole of the body.

(c) Of the predisposing causes of diseases which are artificial.

III. Of the exciting causes of diseases.

Of old age.

Of the causes and signs of death.

PART III.

THERAPEUTICKS;

OR,

OF THE METHOD OF CURING DISEASES.

1. OF the supposed powers of nature in curing diseases.
2. Of the cure of diseases by { Time, change of place, accidents, and remedies which are supposed to be contraindicated by the state of the disease, or by the remedies previously used. }
3. Of the diseases which it is unsafe to cure.
4. Of the advantages and means of attacking diseases in their forming states.
5. Of medicines which remove morbid action, by abstracting stimulus from the diseased parts, either directly, or indirectly.
6. Of medicines which remove morbid action, by exciting a stronger and less diseased action in the affected part, or in some other part of the body.
7. Of medicines which remove morbid action in one part of the body, by exciting it in other parts, less essential to life.

8. Of the remedies for preventing the recurrence of disease by removing predisposing debility.
9. Of medicines which remove diseases by abstracting redundant and foreign matters from the body, and which offend by their quantity, or quality.
10. Of medicines which remove diseases by mixing with, and thus destroying matters which offend by their quality.
11. Of medicines which cure diseases by removing obstructions.
12. Of medicines which are supposed to cure diseases by changing the quality of the fluids, or the texture of the solids.
13. Of the remedies for relieving pain.
14. Of the means of obtaining longevity.

PART IV.

PRACTICE OF MEDICINE.

CHAPTER I.

Of the method to be observed in visiting patients.

Of the mode of examining the signs of diseases.

Of DISEASES, as they appear chiefly and universally in the blood-vessels, and certain viscera, in that form which is called fever.

Of the proximate cause of fever.

Of the states of fever which are universal, or affect the whole arterial system. They are the

Malignant,
Gangrenous,
Synocha,
Synochus,
Synochula,
Synochoid,
Typhoid,
Typhus,
Hectic,
Intermitting,
Febricula.

Of the remedies for preventing the formation of fever, during the existence of its predisposing debility, or premonitory symptoms. They are

1. Fasting.
2. Rest.
3. Gentle stimulants.
4. Gentle evacuants.

Of the REMEDIES for fever when formed, accommodated to the above different states, or grades. They consist,

I. Of such things as lessen, by the abstraction of stimulus, the morbid and excessive action of the blood-vessels, or excite them when reduced below the point of re-action.

II. Of such, as by acting on the stomach, bowels, brain, nerves, muscles, and skin, equalize the excitement of the whole system, and thereby indirectly destroy a weak action in the blood-vessels, by imparting to them a more vigorous and healthy action.

I. The remedies which belong to the first GENERAL HEAD, are

(a) Evacuants. These are

1. Bloodletting.
2. Vomits.
3. Purges and opening clysters.
4. Sweating medicines.
5. Medicines which excite a salivation.
6. Blisters.

(b) Remedies which abstract the stimulus of heat. These are *cold*, in the forms of

1. Air,
2. Water, and
3. Ice.

Also, abstinence and all those remedies which abstract the stimulus.

Of sound and light, by

4. Darkness.

Of invigorating passions, by

5. Moderate fear.

Of motion, by

6. Rest.

Of acrimony, by

7. Diluting drink, and cleanliness.

(c) Remedies which divert local morbid excitement, congestion, inflammation, and serous effusion from parts that are essential to life in the first degree, to such as are less essential to it. These are all such as are mentioned under the head of evacuants; also,

1. Nitre and other neutral salts.
2. Certain preparations of antimony.
3. Sugar of lead.
4. Foxglove.
5. Applications to the external surface of the body, of nitre, dissolved in vinegar, also sweet oil.

II. The remedies which belong to the SECOND general head are STIMULANTS. These divide themselves, naturally, into such as are internal, and such as are external.

(a) The internal stimulants may be divided into medicines and aliments. The medicines are

1. All fermented and distilled liquors.
2. Volatile alkali.
3. Empyrumatic and aromatic oils; also,

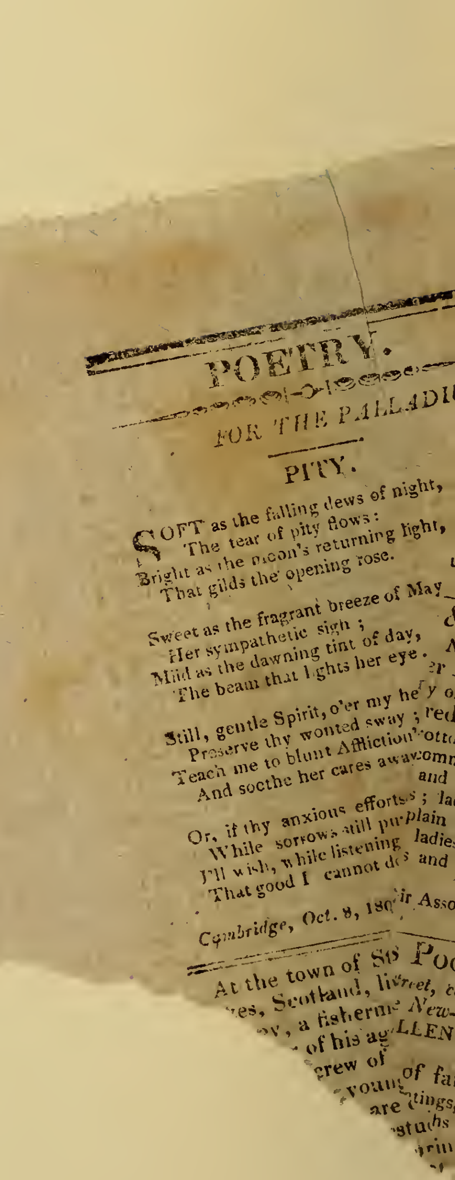
Andrew Homer,

No. 4, Court-street,

Has for sale,

JUST received per Romeo, from London, Sally Ann, and New-Packet, from Liverpool,

Green, scarlet, crimson and blue Baizes; white, yellow, scarlet and black Flannels; white mill'd do.; gray, scarlet and green printed pelice Flannels; 8, 9, 10, 11 and 12-4, Blankets; spotted Swanskins; super. black, blue, brown, dark mixt, drab and scarlet Broadcloths; common do.; mill'd drab do.; super. black, blue, brown, bottle green, dark mixt, drab; white and buff Cassimeres; ...orest Cloths; blue, and bottle green German Serge; ...evonshire Kerseys; fancy Cords; toilenet and ...ansdown Vestings; mixt Cords and Sattinetts; ...ttle green, drab and brown Coatings; Ratteens; ...tfils, and Bearskins; Shalloons; Russels; Duroys; ...limancoes, Wildbores; Bombazetts, and Bird ... Stuff, for Childrens wear; white; blk. & wors... ...ose; slate do.; white gauze worsted do.; Men's ... worsted do.; 3 threaded do.; rib'd and plain ...ed do.; Men's and Women's black and white ...ose, with and without Lace Clocks; Misses silk Hose; cotton do.; Youth's worsted do.; Lamb's wool Gloves; fleecy do.; colored and ...otton do.; silk and raw silk do.; real buck ...loves; tan buck do. and leather Gloves, of ...description; white colored cotton habit Angola do.; Venetian drab; beaver do.; leather Gloves; tan do.; worsted do.; Chil... ...ite worsted Hose; colored do.; do. net Irish Linens; diaper and damask Table ...zes from 9-4 to 10 by 18; Tea Napkins; Calicoes; silk Cords; cambric Dimo... cotton Cambrics; 6-4 black sars... ...ttons; rich Twist; white cott... ...lice Velvets; colors bla... ...ecks; Quality and Sho... black and white lace... ...ed Fans; white ... ...otton Laces; wh... black Velvets ...ur'd Musli... ...es;



POETRY.

FOR THE PALLADI

PITY.

SOFT as the falling dews of night,
The tear of pity flows:
Bright as the moon's returning light,
That gilds the opening rose.

Sweet as the fragrant breeze of May
Her sympathetic sigh;
Mild as the dawning tint of day,
The beam that lights her eye.

Still, gentle Spirit, o'er my he
Preserve thy wonted sway;
Teach me to blunt Affliction's
And soothe her cares away.

Or, if thy anxious efforts
While sorrows still pu
I'll wish, while listening
That good I cannot d

Cambridge, Oct. 8, 180

At the town of St
...es, Scotland, li
...y, a fisherm
of his ag
crew of
young
are

certain fœtid animal and vegetable substances.

4. Opium.
5. Æther.
6. Bark, and bitters of all kinds.
7. Mercury.
8. Pure atmospherical air.
9. Vital air.
10. The invigoration of the passions and understanding.
11. Stimulating injections into the bowels.

The aliments include such vegetable and animal matters as are commonly used in diet, together with saloop, tapioca, and the like.

(b) The external stimulants are

1. Several of the internal stimulants, so prepared as to be applied to different parts of the body, as the nose, the temples, limbs, and the external regions of the stomach and bowels.
2. The cold and warm baths, by lotion, or affusion of the water over the whole body.
3. Blisters.
4. Cataplasms of onions, garlic, and mustard, to the feet.
5. Certain applications calculated to irritate and inflame the skin.
6. Caustics.
7. Boiling water.

Of the treatment, proper during the convalescence from fever.

Of critical days.

Of the signs which indicate the issue of fever in life and death. These signs appear in

1. Partial debility.
2. Pain.
3. General, or partial heat and coldness of the body.
4. Thirst.
5. The pulse.
6. The tongue.
7. The eyes.
8. The ears.
9. The sense of touch.
10. The countenance.
11. Respiration.
12. The voice.
13. Different positions of the body.
14. Different states of sensibility, and irritability.
15. Different states of the appetite for food.
16. Different states of the bowels.
17. Different states of the secretions and excretions.
18. Different states of the faculties of the mind.

Remarks upon the cause, symptoms, and cure of those states of general fever, which are known by the names of bilious, and yellow fever, plague, jail fever, and the fever from opium, and the bite of rabid animals.

Of those states of fever which affect the whole arterial system, but appear with greater morbid excitement in some parts than others. They are the

Sweating,
Fainting,
Burning,
Cold and chilly,
Petechial.

Intestinal, — In which are included,
- Diarrhœa,
- Dysentery,
- Colera Morbus, and
- Colic.

Pulmonary, — In which are included,
- Pneumony,
- Catarrh, and
- Pulmonary consumption.

Eruptive, — In which are included,
- Small-pox,
- Measles,
- Erysipelas,
- Miliary fever,
- Chicken-pox, and
- Pemphigus.

Anginose, — In which are included,
- The malignant sore throat,
- Thes ca rlet fever sore throat,
- The cynanche trachialis, or what is called croup, and hives,
- The different forms of simple inflammatory sore throat.

Rheumatic,
Arthritic,
Cephalic, in which are included, { Phrenetic, Maniacal, Lethargic, Apoplectic, and Paralytic.

Nephritic,
Hydropic, in which are included, effusions of water, accompanied with morbid action in the blood-vessels, into the { Brain, Lungs, Cavity of the thorax, Cavity of the abdomen, Ovaria, Scrotum, Testicles, and Lower extremities.

Hæmorrhagic, in which are included discharges of blood accompanied with morbid action in the blood-vessels from { The nose, Lungs, Stomach, Liver, Bowels, Kidneys and bladder, Hæmorrhoidal vessels, Uterus and Skin.

Of those misplaced states of fever, in which, from the force of the remote cause, or from predisposing debility, morbid action is thrown chiefly from the blood-vessels into other parts of the body, and is either local or general. They are

Hepatic,
Hæmorrhoidal
Opthalmic,
Odontalgic,

Otalgic,
Apthous,
Scrophulous,
Scorbutic,
Hysterical,
Hypochondriacal,
Cutaneous.

CHAPTER II.

Of diseases as they appear in the blood-vessels, and nervous system (in which are included the nerves, muscles, brain, and mind), and the alimentary canal, predominating more or less, according to circumstances in each of them.

Apoplexy,
Palsy,
Catalepsy,
Wakefulness,
Head-ach,
Epilepsy,
Hysteria,
Asthma,
Dyspnea,
Anginapectoris,
Hooping-cough,
Tremor,
Convulsions,
Tetanus,
Choria,

Hiccup,
Cramp,
Colic,
Diarrhœa,
Costiveness,
Dyspepsia,
Hypochondriasis,
Melancholy, or partial madness,
General madness,
Fatuity,
Defect and loss of memory,
Dreaming,
Phantasms,
Absence of mind,
The operations of the mind in a trance,
Fainting,
Asphixia,

Diseases of the passions, and of the venereal appetite.

Of love,
Fear,
Grief,
Anger,
Malice,
Envy,
Lust.

CHAPTER III.

Of general diseases as they appear chiefly in the lymphatic system.

The venereal disease,
Cancer,
Rickets.

CHAPTER IV.

Of general diseases, as they appear chiefly on the skin.

CHAPTER V.

Of local diseases and disorders, as they appear
In the blood.
In secreted fluids.
On the skin and hair.
In the features of the face.
In the cellular membrane.
In the organs of speech, trachea, lungs, liver, spleen, omentum, kidneys, and urinary bladder.
In the heart and blood-vessels.
In the nerves and brain.
In the senses.

In the stomach and alimentary canal.
In the lacteal and lymphatic vessels.
In the glands.
In the tendons, muscles, and ligaments.
In the bones.
In the organs of generation of both sexes.
In the texture, figure, and situation of certain parts of the body.

CHAPTER VI.

Of the diseases peculiar to women and children.
Of the peculiar diseases of negroes.
Of the means of lessening the pains of death, in diseases which have resisted the power of medicine.

LECTURE II.

ON THE

CHARACTER OF DOCTOR SYDENHAM.

DELIVERED DECEMBER 9th, 1793.

GENTLEMEN,

I HOPE it will not be thought foreign to a course of lectures upon physiology, and clinical medicine, to deliver a few observations upon the character of Dr. Sydenham. This illustrious physician, has been admired and celebrated, not only by his countrymen, but by most of the nations in Europe. He revived the industry of the ancients in collecting and recording facts;....he wrote from nature, or rather nature wrote through him;....he combatted most of the errors, both in theory and practice, of the age in which he lived....and finally, he produced a complete revolution in medicine, which, involved in its consequences, a new æra in the life and happiness of the human race.

In this humble and remote tribute, in point of time, to the memory of Dr. Sydenham, I shall first

take notice of his character as a PHYSICIAN, and afterwards of his character as a MAN. In both views, he will appear equally worthy of imitation, and praise.

From the short records of his life, which have been published by the different editors of his works, it appears that his education in academical learning and medicine, was perfectly regular. He became a scholar at Oxford, and a doctor of medicine in the university of Cambridge. I mention these facts in order to refute an opinion which has been introduced by some lazy and illiterate practitioners of physic, that he was indebted wholly to intuition for all his knowledge in medicine. Men may become wise and distinguished by meditation, or observation in the science of morals and religion, but education and study are absolutely necessary to constitute a great physician. It is true, Dr. Sydenham did not adopt, or follow the errors of the schools in which he had been educated, but by knowing them thoroughly, he was able, more easily, to examine and refute them.

It appears, from many parts of his writings, that he was well acquainted with the works of Hippocrates, and that he had studied the systems of all his cotemporary physicians.

But the pre-eminence of his character as a physician arose from the following circumstances:

1st. He carefully studied the climate in which he lived, and faithfully observed and recorded the influence of the seasons upon the human body, in

predisposing it to diseases, and in varying those diseases in different years.

2d. He observed and recorded with an accuracy that has never been exceeded, the symptoms of acute and chronic diseases. He seems to have looked at nature in her operations in morbid bodies, with a microscope. No deviation from health has escaped him, and hence the histories of diseases which are to be met with in all our modern authors, are correct and perfect, only in proportion as they are copied from Dr. Sydenham.

3d. He distinguished, with uncommon care, the different habits and constitutions of his patients, and instead of prescribing the same medicines in all diseases of the same nature, he prudently varied his prescriptions with the strength, age, and sex of his patients.

4th. He marked, likewise, with great care, the influence of different seasons upon the same disease, and varied his practice accordingly. Hence he tells us, that the dysentery, which yielded to the simple remedy of *whey*, in the year 1669, required a very different treatment in the succeeding year, and even in the cold weather of the same year.

5th. He observed and recorded, very accurately, the influence of epidemic diseases, upon each other. He established, by a great number of observations, as an axiom in medicine, that two epidemics, of *unequal* force, could not long exist in the same place, at the *same* time. His words upon this subject are very remarkable. Speaking

of a symptomatic pleurisy, which sometimes accompanied a slow fever, in the year 1675, and which had been injudiciously treated, by blood-letting, by some of those physicians who prescribe for the *name* of a disease, he says, " Whoever, in the cure of fevers, hath not always in view the constitution of the year, inasmuch as it tends to produce some particular epidemic disease; and likewise, to reduce all the cotemporary diseases to its own form and likeness, proceeds in an uncertain and fallacious way*." But the accuracy of Dr. Sydenham, in his observations upon epidemics, did not end here. He clearly proves, that where the monarchy of a single disease was not immediately acknowledged, by a sudden retreat of all cotemporary diseases, they were forced to do homage to it, by wearing its livery. It would be easy to produce many extracts from his writings, in support of this assertion. I shall introduce but one or two of them. A fever, accompanied by a dry skin, had prevailed for some time in the city of London. During its continuance, the regular small-pox made its appearance. It is peculiar to the small-pox, when of a distinct nature, to be attended by irregular sweats before the eruption of the pock. The fever which preceded it, now put on a new symptom. It was attended by sweats, in its first stage, exactly like those which accompanied the eruptive fever of the small-pox†. This despotism,

* Wallis's edition, vol. i. p. 340. † Vol. i. p. 352.

of a powerful epidemic, extended to the most trifling indispositions. It even blended itself, Dr. Sydenham tells us, with the commotions excited in the system by the suppression of the lochia, as well as with the common puerperal fever. The influence of this observation was truly important in practice. It led him to pursue the reigning epidemic through every tract of its dominions, and to treat those diseases with which it had blended itself, with the same remedies, that he did the original disease from which their peculiar symptoms were derived. Having fixed his eye steadily upon a single epidemic, by the adoption of the law of epidemics which has been mentioned, he did not suffer himself to be seduced from a fixed and successful mode of practice, by any new shape or form of the prevailing disease. Hence we find him treating the dysentery of the year 1669, with the same remedies that he had used in the continual fever of the same year, and with the same happy issue. Even the dry-gripes are resolved by him into a modification of an epidemic dysentery, and treated successfully with the remedies usually administered in that disease.

6th. In investigating the character of an obscure epidemic, he took a retrospect of the epidemics which preceded it. He reviewed the remedies which had been used in them with success, and applied them to the reigning disease. It was in this way, he tells us, that he acquired his knowledge of the nature of the plague. It had been

preceded by pleurisies, quinsies, and an inflammatory pestilential fever, all of which had yielded to plentiful blood-letting. He perceived that the constitution of the air, which produced those diseases, was not changed. He applied, therefore, the remedy of copious bleeding to the plague, and if its efficacy was not universally successful, it was owing to the prejudices which were excited against it, by his cotemporary physicians.

7th. He observed the diseases which succeeded the plague to partake of a portion of its malignity, and he accommodated his remedies to it. By his important record of the violence of diseases which preceded and followed the plague in London, he has established the truth of a necessary and immutable connection between a malignant constitution of the atmosphere, and pestilential fevers in every part of the world.

8th. In a new and difficult epidemic, he observed, carefully, the hurtful as well as salutary effects of his remedies, and thereby acquired a knowledge of the character of the reigning disease. For example, he found that hæmorrhages were most frequent in those cases of small-pox, where cordials were administered, and hence he was led to conclude that the disease was not of what is called a putrid, but of an inflammatory nature, and that the spontaneous discharges of blood, the petechiæ and other symptoms of supposed putrefaction, were all the effects of a sudden, violent, and rapid inflammatory action produced by the stimulus of the

contagion of the small-pox, upon the sanguiferous system.

Having enumerated some of the leading principles of Dr. Sydenham, as far as they relate to the knowledge of diseases, I ſhall proceed next to mention his remedies, together with some of those peculiarities in his mode of administering them, which have contributed to establish, and perpetuate his fame.

Previously to the time of Dr. Sydenham, the cure of diseases was left chiefly to nature. She was aided only in the business of destroying human life, by cordial and alexipharmic medicines, and by impure and warm air. Dr. Sydenham first arrested her in her long, and destructive career, and took the treatment of *acute* diseases entirely out of her hands. Most of his medicines are artificial, and his practice in most diseases, is a war against nature. He trusts her in no case, except in those in which it is impossible for her to do harm, and then he substitutes the term *time* for her ancient name. That bold and vigorous act of reason, which first banished human sacrifices from religious worship, did not deserve more praise from mankind, than Dr. Sydenham deserves from Physicians of all ages, for having deposed the power of nature in medicine, and thereby put an end to the folly and mischief, which had arisen from a supine and blind attachment to her deadly operations.

We behold Dr. Sydenham now upon an eminence which no Physician had ever ascended before. Having parted with a slow and treacherous auxiliary, he relies upon the resources of his own fertile and original mind. Something like a new creation rises up before him. His remedies are either altogether *new*, or used in a manner unknown in the former annals of medicine.

The first of his remedies that I shall mention is COOL AIR. He applied it first in the treatment of the small-pox. Nothing could be more opposed to the prevailing theory of that disease. The operations of nature tended to throw the morbid matter of the small-pox upon the skin. The operation of cool air tended to repel this matter, upon the vital parts of the body. How great must have been the intrepidity of that mind, that could adopt a remedy so opposed to the common sense of mankind, and how acute must have been that genius that could reconcile a practice so apparently absurd, with the true principles of the disease! Truth in this as well as in a hundred other cases in medicine seems to consist in a total renunciation of the *first* operations of reason. The success which attended the application of cool air in the small-pox, led Dr. Sydenham to advise it in the cure of all fevers of great morbid action. Hence we find him in every part of his works, recommending to his patients, to lie as little as possible in bed, thereby to expose the body to the constant action of cool air.

2. DIET constituted a second part of the materia medica of Dr. Sydenham. This was in no instance left by him, to accident, or regulated by the appetite of his patient. Its quality, and quantity, were both fixed with as much care, as his doses of emetic or purging medicines.

3. The third and next remedy which was used by Dr. Sydenham was BLOOD-LETTING. He acknowledges himself indebted to Botallus a French Physician who flourished about the year 1580, for the boldness and success with which he used it. Its efficacy in inflammatory fevers is the natural result of their proximate cause. In the use of this remedy he aimed not only to save life, but to shorten the duration of diseases, and to deliver the system from the lingering complaints which generally follow their imperfect solution.

The quantity of blood drawn by him was regulated wholly by the force of symptoms. In his recommendation of bleeding in the plague, he advises that it should be copious, or not used at all, for says he, "Either take the cure wholly out of the hands of nature, or leave her wholly to her own operations." Blind, and accidental as these may be, they are often more salutary where their force is unimpaired, than when they are weakned and diverted by the divided aids of art.

4. VOMITS, and PURGES form a fourth part of the remedies of Dr. Sydenham. After the use of these, we find him commending *sweating* as a proper remedy in diseases of a peftilential nature.

The effects of all the evacuations which have been mentioned, whether obtained by the lancet, or by emetic, cathartic, or sweating medicines, are very remarkable. Instead of weakening, he asserts, that they uniformly restored the vigor and activity of the system. This will not surprise those Physicians who have been in the habit of distinguishing between the *oppressed*, and *exhausted* state of the body, or to use more modern terms, between what is called indirect and direct debility. The former is removed in its first stages, most speedily and most effectually by evacuating remedies, while the latter yields only to such as are of a stimulating nature. The MEDICINES principally relied upon by Dr. Sydenham were BARK, OPIUM and MERCURY. He frequently prescribed medicines of less efficacy, but these appear to be little else, but peace offerings to the prejudices of his patients, or to the arbitrary and fashionable exactions of the apothecaries. In the manner of exhibiting each of the remedies and medicines, which have been mentioned, he discovered as much sagacity, as he did in the selection of them.

He proportioned their force exactly to the state of what has since been called the excitability of the system. In fevers of moderate action in the arteries, he began with cordials of a feeble stimulus, and proceeded gradually to such as were more active. With the same regard to the state of the system, he sometimes substituted common bitters for the *bark* with success, in the cure of inter-

mitting fevers. He perfectly understood the nature and operation of *opium*. He calls it " a most excellent cordial, perhaps the only one that has yet been discovered" and a " *strengthener*" of the system. He accuses it in the beginning of fevers of producing delirium, but advises it in the close of the same fevers to remove that alarming symptom. He prescribes it in dysenteries of but feeble morbid action in the system, but forbids it in the same disease when it partakes of much inflammatory diathesis. He severely condemns the practice of dosing sick people who labour under diseases that are considered as incurable, with a farrago of useless and nauseous medicines, and happily compares them to the " pompous garlands with which beasts are crowned, just before they expire in sacrifices."

Hitherto I have only mentioned Dr. Sydenham's remedies for acute, and particularly for febrile diseases. It remains now that I mention his remedies for such as are of a chronic nature. These consist chiefly of *moderate blood-letting* when attended by plethora, *steel* and *exercise*. His principal dependance was upon the last of those remedies. His encomiums upon riding on horseback in hypocondriac and consumptive diseases have been quoted by many hundred authors, and many thousand invalids have subscribed to the truth of them. If any thing could tempt to a belief in animal magnetism, it would be the wonderful effects of this mode of exercise in the above diseases.

I cannot dismiss the medical character of Dr. Sydenham, without taking notice of his theories of diseases. Many of these are erroneous, but some of them I believe to be true. I adopt in the fullest sense his theory of what are called putrid diseases, and am satisfied that they are the effects of an excess of that stimulus which produces what is called inflammatory action in the system. I adopt likewise his opinion of an additional stimulus being imparted to the atmosphere during the prevalence of malignant fevers. He derives it from a mineral exhalation from the bowels of the earth. Time will sooner or later I have no doubt discover its source. It is sufficient for the honor of Dr. Sydenham to have pointed out a fact, the truth of which has been confirmed by corresponding changes in the whole vegetable and animal creation. The doctrine of concoction in fevers which he derived from Hippocrates, and his opinions of the causes and symptoms of diseases being produced by morbific matter, have all been rejected from our systems of pathology as hypothetical, and unfriendly to regular and successful practice. Yes; in the systems of common Physicians they are so, but they had no unfriendly influence upon the practice of Dr. Sydenham. It was judicious and successful under every theory by which he prescribed. It resembled in this respect the rare morality of those philosophers, who conform in their lives to the precepts of Christianity, in the

belief of all the doctrines of the Pagan or Mahometan religions.

After all that has been said of Dr. Sydenham's theories, I will venture to assert that there is much less error in them, than there is in any system of medicine that has been published in the course of the eighteenth century.

I come now to say a few words upon Dr. Sydenham's character as a MAN. This part of our subject should command our closest attention, for the highest attainments and reputation in science, can never make a Physician truly reputable, who does not add to them the virtues of a fair moral character.

It appears from the concurring testimony of all cotemporary writers, that Dr. Sydenham was a man of the most exemplary morals, and that benevolence, was his predominating virtue. He loved the whole human race, and sympathised with every species of human misery. Hear his benevolent creed in his own words, " It is not acting the part of a *good* man (says he) to convert to his private advantage what might prove eminently serviceable to the public, nor of a *wise* man to deprive himself of the blessing he might justly expect from heaven, by endeavouring to promote the public good."

His sympathy with human misery will appear from the manner in which he mentions a certain class of persons whom not only disease, but vice, had, by a mistaken interpretation of the spirit of

Christianity, excluded from the pale of Christian charity. In his treatise upon the venereal disease, he says, " I have met with several persons who have not scrupled to assert, that the cure of the venereal disease should be kept a secret, in order to deter the inconsiderate from vicious practices by the apprehension of succeeding punishment. But I cannot be of their opinion, for there would be very little room left for charity, or doing good offices, unless the misfortunes which thoughtless persons bring on themselves, were to be alleviated with humanity and tenderness. It belongs to God to *punish* the offence, but it is our duty to *relieve* the distressed." The experience of succeeding generations, has discovered, that Dr. Sydenham's opinion and conduct with respect to venereal patients are more calculated to eradicate the disease, than the rigid practices of pharisaical morality. In the venereal hospital at Louvain, no patient is admitted until he has submitted to corporal discipline from the Church. In consequence of this severity towards those unhappy people, the disease prevails more in that city than in any city in Europe. In London, where the doors of humanity are open to misery of every kind, whether it be innocent or guilty, the venereal disease is less common, and instances of mortality from it, are seldom known. From these facts, it would seem as if evil could finally be annihilated, only by being forgiven.

But the benevolence of Dr. Sydenham was not confined to the age in which he lived. He included posterity in all his efforts to advance the happiness of mankind. Hence we find him making the following noble declaration in his letter to Dr. Brady. "It is the duty (says he) of a good man to preserve his fellow creatures, and to instruct others to save them from death, after his own decease, nor can any thing be more inhuman and detestable than to insinuate a disregard or unconcern for whatever misfortunes may happen to mankind after our death." Posterity to a Philosopher, is what the day of judgment is to a Christian. It appears from many parts of Dr. Sydenham's works, that he often looked forward to distant generations to do justice to his remedies and character. Speaking of the use of the cool regimen in the small-pox, he boldly asserts that "it *will* prevail after his decease, notwithstanding the ill grounded prejudices of those who oppose it*;" and again he says, that "the success which had attended his inquiries had very much encouraged him, and that his successors would undoubtedly vouch for his veracity and honesty." In this bold prediction he was not mistaken, for his writings, like the dry bones of the prophet imparted life, after he descended into the grave; and millions of the generations which have succeeded him, thus vouch for the safety, and success of his practice.

* Vol. i. p. 158.

The candor of Dr. Sydenham discovers itself by the readiness, with which he acknowledges his having not only mistaken a new fever for a bastard peripneumony, but having given a printed account of it to the world*. Such instances of magnanimity are very rare in all sciences, and from the influence which they have upon both interest and reputation, are less common among physicians than men of other professions. But Dr. Sydenham was elevated by his virtue, above the allurement of wealth and fame. Hence he tells us " that he had rather discover a certain method of curing the slightest disease, than to accumulate the largest fortune;" and again, speaking of those physicians who acquire great estates by unlawful or sordid means, he says, " I do not envy them the enjoyment of what they have acquired, but would have them remember, that the lowest mechanics do sometimes leave greater fortunes to their children; and yet in this respect they are no way superior to brutes, who make the best provision they can for themselves, and their issue." His contempt of fame appears in the following amiable declaration. " Upon deliberate and equitable reflection I find it better (says he) to assist mankind than to be commended by them, and highly conducive to tranquillity of mind; popular applause being lighter than a feather, or a bubble, and less substantial than a dream." And again, in his dedication of

* Vol. ii. p. 316.

his treatise upon the gout and dropsy to Dr. Short, he says, " Provided I discharge the duty of a good citizen, and serve the public to the prejudice of my private interest, what matters it if I gain no reputation thereby? for, upon due consideration, my endeavoring to secure a character, who am now advanced in years, will in a little time be like providing for a non-existence, for what will it avail me after my decease, that the eight letters which compose my name, should be pronounced by those who will be able to frame no idea of me in their minds*." It is only by preferring the life of a fellow creature to interest, and reputation, that a physician can be in a condition to do his duty to his patients.

It may not be amiss to add to this account of Dr. Sydenham, that his manners were as gentle as his morals were pure. This is evident from the testimony of Mr. Kendrick, who speaks of his civilities to him in the highest terms to Dr. Cole.

In reviewing the talents and virtues of Dr. Sydenham, we are ready to congratulate the age which enjoyed the benefit of his labors, and to suppose, that his life was a succession of private happiness and public honour. But this was far from being the case. He was envied by some, hated by others, and slandered by most of his cotemporary physicians, who resided in the city of London. It appears from his writings, that he was

* Vol. ii. p. 179.

charged with murdering his patients by repeated and plentiful blood-letting, and by large doses of bark, for this noble medicine underwent the same ordeal from ignorance and prejudice, that large doses of mercury and jalap are now undergoing, from some of the physicians of the present day. What other calumnies were propagated against Dr. Sydenham cannot be ascertained, for he passes over in silence even the names of his enemies, thereby depriving them of the only chance they had of descending to posterity. To the few medical friends whom he possessed, he was affectionate and grateful. The name of Dr. Goodall has been rendered coextensive with his own, by his panegyric upon his probity, and skill. At a time when Dr. Sydenham's remedies of bleeding, and cool air for the pætechiæ and bloody urine, which frequently occur in the small-pox, were very generally reprobated by his medical brethren, Dr. Goodall used them with success, and upon the favourable issue of a *single* case, established by his public testimony their safety, and efficacy in the city of London. Dr. Sydenham begins his eulogium upon him, by speaking in the highest terms of the cure his friend had performed, and then adds, "This gentleman, at a time when few dusrt assert that I had made the least discovery, or improvement in physic, defended my reputation against those who injured my character, with as much warmth as a son would do that of a father. But though I am so much indebted to his good-

ness, I would nevertheless have concealed his praises if they were not due to his merit, it being equally blame-worthy and false, to commend or censure without cause. Let no one be displeased with me therefore for affirming, that he is a man of as much probity as I have ever known, and how excellent a physician he is, will shortly appear (if his life be prolonged), as he hath with great judgment read the writings both of ancient and modern physicians, and with singular prudence and industry investigated the nicest rules of practice, without a knowledge of which no man can practise the art with reputation; so that his patients will find him an able and successful practitioner." But Dr. Sydenham's gratitude to Dr. Goodall does not end here. He erects a monument to his merit in the dedication of his "Essay on the rise of a new Fever." "I beg your acceptance," says he, "of this performance, because you are my intimate friend, and have constantly defended me against all my opponents, not so much for my own sake, as out of an inherent generous disposition, and great integrity of mind, which induced you to support me in what you knew was truth, though at a time when most of the faculty exclaimed against me. And as I have not the *least* dependence upon you, I cannot be supposed to flatter you, by openly professing as I do (to speak within compass) that there is not a better physician living, and that I never knew an honester man."

There is a certain subordination in the duties of morality. It is our duty to live in peace with all men, but when this cannot be effected, but at the expense of truth, and the lives of our fellow-creatures, our obligations to preserve peace with all men, are cancelled and destroyed. Such, gentlemen, appears to have been the opinion of Dr. Goodall; and, hereafter, when a man creates enemies by supporting the interests of virtue and humanity, let him be called a Dr. Goodall.

I have taken notice of Dr. Sydenham's contempt of wealth and fame. This singular trait in the character of a philosopher and a physician, will cease to excite our surprise, when I add, that he was a truly religious man, and that he looked forward, not to the admiration and praise of posterity, but to the approbation of his Creator, and the substantial riches of a future world. He every where mentions the Deity in terms of the most profound veneration, and seems to entertain the most expanded ideas of his wisdom, power, and goodness. That such contemplations should have produced all the amiable virtues which have been described in Dr. Sydenham's character as a man, is nothing new in the history of the human mind, but I am disposed to ascribe to his sublime, and just conceptions of the Deity, much of that force and extent of mind which enabled him to produce a revolution in medicine. Poets, we are told, acquire great ideas from a familiarity with mountains, oceans, and other majestic works of nature; and mathemati-

cians become correct in their modes of reasoning, by habits of demonstration, which are obvious to their senses. In like manner, may we not conceive that the faculties of the mind, when long and often stretched by contemplating the immensity of the Supreme Being, may be fitted by it for discovering and embracing truth in all its extent upon other subjects? It is somewhat remarkable, that the greatest improvements that have been made in science, in Great-Britain, have been by men who had previously increased the dimensions of their minds by philosophical and devout contemplations on the Creator of the universe. You will readily anticipate the names of these men. They were Bacon, Newton, and M'Laurin, in natural; and Locke, Hartley, and Reid, in metaphysical science.

There are two things in the history of Dr. Sydenham, which have been supposed to cast a shade upon his moral character. The first is his desertion of the city of London, upon the appearance of the plague, in the year 1664. This would certainly have been, not only a weakness, but a vice, in Dr. Sydenham, had not his subsequent conduct more than atoned for it. The cloud which obscured his sun, soon passed away, and his flight served only to afford him an opportunity of acquiring fresh honours in medicine. In spite of a feeble constitution, shattered by repeated attacks of the gout, and deaf to the entreaties of an affectionate and needy family, he returned to London, while the plague, to use his own words, still "raged violently,"

and in time to apply to its cure, those principles which he had previously established in the malignant and confluent small-pox. Thus, like Achilles, he came forth from his short retirement, rallied the hopes of a desponding city, vanquished the destroyer of his fellow-creatures, and by his incomparable writings, has ever since dragged him, in triumph, at his chariot wheels.

The second charge against Dr. Sydenham's character is of a more serious nature, and comes from a quarter that gives it peculiar weight. He accuses himself, not of neglecting his patients, nor of oppressing them by exorbitant fees, but of doing violence to his conscience by submitting to be dictated to, in consultations, contrary to his own judgment, and thereby becoming accessory to the death of his patients. Speaking of the cool regimen in the small-pox, he says, " I have used this method in my own children, my nearest relations, and all those whom I have attended, and am conscious of no fault, unless it be yielding, sometimes, to persons of a contrary opinion, to avoid the imputation of moroseness and obstinacy." This confession from Dr. Sydenham is replete with instruction to physicians and patients. It should teach the former to adhere conscientiously to the dictates of their judgments, where the life of a fellow-creature is at stake. The latter should learn from it, never to admit physicians of opposite principles, and practice, into their sick room; for whatever is prescribed by them, is seldom the result of the judg-

ment of either, and generally does harm, or leaves the disease to go on in its tendency to extinguish life.

Such, gentlemen, was the character of Dr. Sydenham as a physician, and as a man, and this, many of you can witness, is not the first time I have recommended him in both capacities, to your imitation.

The awful events which have taken place in this city, since our last meeting in this room, have furnished me with many additional reasons to value and recommend his excellent works. It is as foreign to my inclinations, as it is to the subject of this lecture, to mention the opinions and practice of all the physicians of Philadelphia, during the prevalence of our late epidemic. I shall mention the conduct of those only who fixed upon Dr. Sydenham as the model of their practice. It was by Dr. Sydenham they were led to renounce the *name* of the disease, and to conform their prescriptions to our climate, to the changes in the weather, and to the state of morbid action in the system. It was from Dr. Sydenham, they learned, that no two epidemics, of unequal force, could prevail in our city at the same time, and that after the 5th of September, there was no febrile disease that was not derived from the miasmata which produced the yellow fever, or that was not blended with it; and hence in no instance did a yellow colour of the skin, a black vomiting, or a hearse at the door, on the fifth or seventh day of the disease, convict

them of error or deception. It was by following the bold example of Dr. Sydenham, they early got into the rear of the disease, and these discovered by a retrospect of the epidemics which preceded it, and by a close attention to the symptoms which accompanied it in its first stage, that instead of being a putrid, it was a fever of the highest possible inflammatory nature. It was from Dr. Sydenham they learned to distinguish between the *oppressed* and *exhausted* state of the system, and that they beheld with equal surprise and delight, the strength of their patients increased by every evacuation of blood or bile. It was by Dr. Sydenham they were prepared to observe the wonderful efficacy of those cheap and universal remedies, *cool air* and *cold water;* and lastly, it was by Dr. Sydenham they were taught the destructive effects of bark, wine, and laudanum in every stage of the disease. If, therefore, many thousands of the citizens of Philadelphia owe their lives to the rejection of those medicines, and to the liberal use of remedies of an opposite character, let the physicians who administered the latter, come forward and deposit their trophies thus publicly upon the tomb of this illustrious physician.

"With every healing plant, his grave adorn,
"Saviour of many millions, yet unborn."

LECTURE III.

ON

THE CAUSES OF DEATH,

IN DISEASES

THAT ARE NOT INCURABLE.

DELIVERED NOVEMBER 26th, 1798.

GENTLEMEN,

OUR city has again been afflicted by a malignant bilious fever. Its mortality has been much greater, in a given number of sick people, than in former years. In meditating upon the causes of this extraordinary mortality, I was led to contemplate the causes of death, not only in our late epidemic, but in other diseases which are not incurable, for the malignant bilious or yellow fever, is not necessarily a mortal disease. In considering this subjeet, the first thing that occurred to my mind, was the small proportion of people who die of diseases that are acknowledged to be incurable. In examining the bills of mortality, of all countries, how few people do we find die of aneurisms, epilepsy, internal cancers, and casualties, compared with the number of persons who perish from fevers, and other diseases which are admitted

to be under the power of medicine. Perhaps the proportion of deaths from the former, compared with the deaths from the latter diseases, does not amount to more than one in an hundred. Ninety-nine persons, of course, die who might be cured by the proper application of remedies which are within the reach of reason, and power of man. The business of the present lecture, shall be to point out the various causes which render the means of saving life, that are known or attainable by us, thus abortive. The discovery of these causes will open a wide field for speculative truth, as well as practical virtue and happiness.

In considering the causes of death in diseases which are not incurable, I shall

I. Mention those which are derived from physicians.

II. Those which arise from the conduct of sick people, and

III. Those which arise from the conduct of their attendants and visiters.

1st. Under the first general head, I shall first mention *ignorance* in a physician, arising from original incapacity, or a want of proper instruction in medicine. But where there have been both capacity and instruction, there is sometimes an obliquity in the human understanding which renders it incapable of perceiving truth upon medical subjects. A mind thus formed, may acquire learning, without knowledge, and it may even acquire knowledge upon all subjects,

except in medicine. But where there are talents that are in every respect equal to the profession (and these are by no means so rare as has been commonly supposed), there is often a deficiency in their application. This deficiency extends to reading and observation. Few physicians read after they enter into business, and still fewer profit by their observations. It is from the neglect of these two sources of medical knowledge, that we consider so many cases as new, that have existed a hundred times before, and that we prescribe the same remedies in all countries and seasons for diseases of the same name. No epidemic has the same symptoms, or will bear the same treatment in a warm and cold climate. The muslin dresses of the East and West Indies, would not be more unsuitable for the citizens of Philadelphia, in the autumnal months, than the remedies of a tropical climate are for the diseases of those months in the middle states of America.

But again, epidemics often differ so much in their character, in the same climate, in different years, as to require a difference of treatment. The yellow fevers of 1793, 1794, and 1797, in our city, yielded, in most cases, to copious bleeding. They were, moreover, aggravated in those years, in every case, by bark and laudanum. In the yellow fever of the present year, the lancet was used more sparingly, and bark and laudanum were administered, in some cases, with success. Lastly, the same epidemic differs in the *same* season in

different kinds of weather. This remark was obvious in our late fever. Copious bleeding was forbidden, in almost every case, in the month of August. Emetics at this time had a much happier effect. After the 20th of September, and during the whole month of October, copious bleeding, in many instances, supplied the place of emetics, and produced, when properly used, a safe and easy termination of the disease.

2d. A cause of death in diseases that are not incurable, arises from the *negligence* of physicians. This negligence extends to their delays in not obeying, immediately, the first call to a patient, to their inattention to all the symptoms and circumstances of a disease in a sick room, and to the time of their visits not being accommodated to those changes in a disease in which remedies of a certain character can be applied with effect. Negligence from the first of those three causes has occasioned the death of many patients. A conduct the reverse of that which has been mentioned, is happily commended by Dr. Johnson, in his friend and physician, Dr. Lever, in an elegant ode to his memory. The talents of this physician were said to be moderate, but his success was considerable in his extensive practice among the poor, owing chiefly to his early and immediate compliance with the calls of his patients*.

* "No summons mock'd by *chill* delay,
"No petty gaindisdain'd by pride,
"The modest wants of every day,
"The toil of every day suppli'd."

3d. Physicians render curable diseases mortal, in many instances, by their connecting the measure of their services to the sick, with pecuniary considerations. This is one reason why more of the poor than of the rich, die of mortal epidemics. They are in general either deserted by physicians altogether, or attended in such a desultory manner, that medicine has but a slender chance of doing them any service. Extravagant charges for medical advice, and attendance, have, in several cases that have come to my knowledge, produced such delays in sending for a physician, as have given a curable disease time to advance to its incurable stage. These delays, though apparently originating with patients, should be traced wholly to the conduct of physicians.

4th. Forgetfulness in a physician, to visit his patients, or to send them medicines at regular and critical hours, has occasioned the death of many persons, in diseases that might, under other circumstances, have been cured.

5th. A preference of reputation, to the life of a patient, has often led physicians to permit a curable disease to terminate in death. This disposition is more general than is known or supposed by the public. The death of a patient, under the ill-directed operations of nature, or of what are called lenient and safe medicines, seldom injures the reputation or business of a physician. For this reason many people are permitted to die, who might have been recovered by the use of efficient remedies.

6th. A *sudden indisposition* attacking a physician, so as to prevent his regular and habitual visits to his patients, has often been the cause of death, where a favourable issue of a disease would otherwise have taken place. This source of mortality is most obvious in general epidemics, when the disease is dangerous, the patients numerous, and the time of brother physicians so completely occupied, as to prevent their affording the persons who have been deserted, the least substituted aid.

7th. Where none of the causes of mortality which have been enumerated have occurred, patients are sometimes lost in curable diseases by fraud and uncertainty in the composition and doses of medicines, by which means they produce greater, or less effects than were intended. Many persons have died from an excess in the operation, or from the inertness of a dose of James's powder. The tartarised antimony has as often deceived the hopes of a physician. It was to obviate these evils that Mr. Chaptal expressed a wish that "Those heroic remedies which operate in small doses, should produce constant and invariable effects through all Europe," and wisely proposed that "Governments, which do not apply their stamp of approbation to objects of luxury, until they have passed a rigid inspection, should prohibit traders from circulating, with impunity, products upon which the health of the citizen so essentially depends*."

* Vol. ii. p. 261, 262.

8th. The prescriptions of physicians, written in a careless and illegible hand, have sometimes produced mistakes in the exhibition of medicines which have been the means of destroying life in diseases that had no tendency to death. Verbal prescriptions have occasionally been followed by the same unfortunate issue. The bare recital of these facts should render perspicuity in writing and speaking, an essential part, not only of the learning, but of the morality of every physician.

We proceed, in the second place, to mention those causes of death, in curable diseases, which originate with sick people....and here we must begin, as under our former head, by mentioning *ignorance*. Medicine has, unhappily for mankind, been made so much a mystery, that few patients are judges of the talents, or qualifications of physicians; hence the bold and the artful are often preferred to the modest and the skilful. The desire of health, like the love of money, it has been said, levels all ranks and capacities; and, however much, what is called a liberal education, may enable men to form correct opinions upon certain subjects, it gives them no pre-eminence in medicine. In this science, the rich and the poor, the learned and the illiterate, are actuated, in common, by the same vulgar prejudices. Our late epidemic furnished many proofs of the truth of these remarks. An opinion had been become current and popular, that the disease was aggravated by harsh remedies, and that it was to be cured by the operations of

nature, aided by the most simple medicines. To the influence of this opinion must be ascribed, in part, its greater mortality than in former years. Patients who suffered by this species of ignorance, not only renounced all knowledge upon other subjects where innumerable analogies suggested the reasonableness of accommodating means to ends, but they rejected the analogy of a practice in diseases which habit had long made familiar to them. What patient is so ignorant as not to use more powerful remedies in a pleurisy than in a common cold; and yet the same patient cannot comprehend that a yellow fever is to a mild remittent, what a violent inflammation of the lungs, in a pleurisy, is to a moderate affection of the same parts in a catarrh.

2d. *Prejudice* in patients, in the choice of a physician, has sometimes rendered diseases mortal, which are not incurable. This prejudice is either of a religious or a political nature. The former leads men to prefer physicians of their own sect, the latter, of their own party, without any regard to talents or knowledge. It is because our profession is a degraded one, that gentlemen of other professions usurp the right of thinking for us upon political questions. The world does not treat the profession of the law with so much disrespect. Eminent talents at the bar command business from men of all parties. The reason of this difference in the conduct of mankind towards the two professions is, that the value and danger of property

is better known, and more sensibly felt, than the value and danger of health and life.

3d. *Fashion* has a powerful influence in determining sick people in the choice of a physician, and as the leaders in it, are generally as ignorant as those who follow them, of the true characters of physicians, men are preferred, who add, by their ignorance to the mortality of curable diseases. In Europe the common people follow the example of the privileged orders in their choice of a physician. In this country, wealth gives the tone to medical reputation. It is remakable that the effects of patronage, whether it be derived from titles or money, is as little influenced by success in the treatment of diseases as it is by talents, for it has frequently been observed that the most fashionable physicians are the least successful in their practice. Nor does a general knowledge of this fact affect the business of such physicians while they retain the favour of the great. This imitative disposition in human nature extends to other things as well as to the preservation of health. It discovers itself in acts the most opposite to the common feelings and principles of action in man. It leads men, in some instances, to delight in deformity. The hump-back of Alexander was aped by all his officers. It does even more. It leads men to covet diseases and pain. Dionis tells us in his surgery, that after he had cut Lewis XIV, for a fistula in ano, he was called upon by a great number of the nobility of France to examine whether they had not the same

loathsome disorder, and he adds, that they always appeared to be offended when he informed them they were not affected with it.

4th. Many patients die of curable diseases by neglecting to apply in *due time* for medical aid. Cancers and consumptions have been called incurable diseases. This is far from being true. If the tumors which precede nearly all cancers were extirpated immediately after they were discovered, and if the premonitory symptoms of consumption were met by proper remedies, we should seldom hear of persons dying of either of those diseases. Our newspapers frequently told the public that our late epidemic baffled the skill of our physicians. This assertion was not well founded. Most of our physicians declared that the disease, after the *first* day, was incurable. In this they discovered a just knowledge of it, and in this knowledge, skill consists. It should rather have been said, that the disease baffled the hopes of patients who supposed their indisposition was occasioned by a trifling cold, and neglected to send for a physician at the only time in which it was under the power of medicine. Few cases proved fatal under any mode of practice, where physicians were called in the *forming* state of the disease.

5th. The *neglect* in patients to comply with the prescriptions of their physicians, has, in many instances, rendered diseases fatal, that might have been cured. It is from disobedience to our prescriptions, whether it be founded in ignorance of

the danger of the disease under which sick people labour, or upon the calls of business or pleasure predominating over sickness and pain, or upon the unpalatable nature of certain medicines, or upon a dread of the pain of others, that we sometimes discover, after the death of our patients, medicines that would probably have saved them, upon a mantlepiece, or in the drawers of a dressing-table. Patients who recover, sometimes humorously insult their physicians, by telling them of the improper, and even prostituted use to which they have applied their medicines. Sir Richard Nash was once asked by his physician if he had followed his prescription....“ If I had,” said Sir Richard “ I should certainly have broken my neck, for I threw it out of my window.” Fear has prevented, in many instances, the successful application of blood-letting in the cure of diseases. False delicacy, by restraining the use of clysters, has sometimes been attended with the same fatal consequences. The former weakness is the more mischievous, from its disguising itself under the apparent dictates of judgment.

6th. The neglect in patients to make use of the remedies of their physicians, at the *time*, and in the *manner*, in which they were prescribed, is a frequent cause of death in curable diseases. In acute indispositions, the cure often turns, upon a remedy being used, not only on a certain day, but at a certain hour. Purges, vomits, bleeding, blisters, sweats, and laudanum have all their precise

days, hours, and perhaps less divisions in time, of being useful, before, or after which, they are either ineffectual, or do harm. Our late epidemic furnished many proofs of the truth of this remark, more especially in the use of blood-letting. Few persons died of it where the prescription of the lancet was complied with in the early part of the first day of the fever, and few recovered, where it was used for the first time on the second, or on any other of its subsequent days. Its efficacy was most observable in its paroxysms. In its remissions, bleeding was less proper, and sometimes hurtful. But patients not only injure themselves by neglecting to use remedies at the *time*, but by using them in a *different manner* from that in which they are prescribed. They take more, or less of their medicines, or they lose more or less blood than was intended, and often at a time, when life and death are perched upon the same beam, and when the smallest particle of error gives it a preponderance in favor of the grave.

7th. The *indulgence* of the *appetite* by sick people for food and drinks, improper from their quality, or quantity, has often converted a curable, into a mortal disease. This cause of death occurs most frequently in diseases of a chronic nature, in which the appetite is unimpaired. Frederick II. of Prussia, appears to have died in consequence of his defeating, by his intemperance in eating, the efficacy of all Dr. Zimmerman's prescriptions. The gout would seldom prove fatal, if patients

afflicted with it would be persuaded to abstain from wine, and fermented liquors, in the remissions of its symptoms. In the year 1797, a supper of beefstakes and porter produced a relapse in a patient which carried him off in a few hours, after he had exhibited every mark of recovering from a violent attack of the yellow fever. In the course of the late autumn, I left a patient, in the evening, in whom I was happy to observe the usual symptoms of a favourable issue of the prevailing epidemic. The next morning I was met by his nurse, at the door of his house, who told me my patient was dead and buried. The information was alike unexpected and distressing to me. I asked the nurse if he had eaten or drunken any thing besides the diet and drinks I had prescribed for him; she told me he had....that one of his friends had sent him two bottles of wine the night before, one of which he drank in the course of the evening....that he became delirious afterwards, and died at six o'clock in the morning. Possonier relates a similar issue of a yellow fever from a small quantity of wine being improperly given to a patient in the West-Indies. The same author tells us the physicians who attended the naval hospital at Brest declared, that as many of their patients died of relapses, from improper diet, as from the original contagion of a fever which destroyed several thousand people at that place, about the year 1746.

8th. *Fear* has often rendered diseases fatal, which would otherwise have yielded to medicine.

The deadly influence of this passion is most observable in the plague, and other mortal epidemics. It is often increased by the tolling of bells, by the noise of a herse, and by persons who are sick, hearing of the deaths of their friends and neighbours. The effects of fear are still more fatal when they are combined with superstition. An instance of death once occurred in my practice in a disease, which rarely proves mortal, from a presentiment of it having been excited by a previous dream.

9th. A *dread* of the expenses of medical services, has sometimes, by preventing an application to a physician, occasioned death from diseases that might have been cured by a single dose of physic. The operation of this principle is much more extensive than is commonly supposed. It would be an improvement in charity, if a certain number of physicians could be supported at the public expense, on purpose to attend those persons whose narrow and appropriated incomes prevent their applying for early and constant medical aid. The dispensaries which have lately been instituted in different parts of the world, have been the means of saving many lives. They would be much more useful, if physicians were rendered so independent by governments as to devote their time exclusively to them. I grant that avarice now and then prevents an early application for medical aid, but where this passion is the cause of this delay once, poverty, or scanty resources are the cause of it in an hundred instances.

10th. A peculiar irritability of temper has sometimes induced death in diseases, which, under other circumstances, might have been cured. Dr. Hector M'Clean relates the case of a British officer, who died of a sudden paroxysm of anger in the yellow fever, because his nurse refused to indulge him in plentiful draughts of wine and porter.

11th. Improper application to business and study, and riding out prematurely, have, in many instances, converted a curable, into a mortal disease. Dr. Campbell, of Kendal, says he once lost a patient after the crisis of a fever, by his sitting up a few minutes in his bed to answer a letter. I have known two instances of death, from the impatience of sick people to enjoy the benefits of exercise, and country air.

12th. An excess of delicacy, by disposing patients to conceal the nature and seats of their diseases, is sometimes the cause of their mortality. Of this, I have known two instances in this city, in ladies of great worth, and respectable connections. One of them concealed a psoas abscess, and the other a cancer in her breast, not only from their physicians, but from their female relations, until they were beyond the possibility of medical relief.

13th. Love, debt, and guilt, which are seldom acknowledged by sick people, frequently united with diseases of a mild nature, and render them incurable.

14th. Habits of secret drinking, often give a fatal direction to diseases, which are seldom mortal

in temperate people. Of this, there are innumerable instances in every part of the world.

We come now to consider in the third and last place, the causes of death, which arise from the conduct of the attendants and visiters of the sick.

1st. Under this head, I shall first mention the fatal effects of *consultations* between physicians of opposite medical principles. I have elsewhere borne a testimony against this mode of trading in the health and lives of our fellow-creatures. Consultations lessen responsibility, and by blending, render inert, or hurtful, modes of practice, which, if pursued separately, might have been successful, for it is a fact, that there are not only *different* modes of curing the same disease, but that the same disease may be cured by *opposite* medicines. Next to the influence of improper consultations, under this head, I shall mention the conduct of nurses, as a frequent cause of the fatal issue of diseases. Far be it from me to blame indiscriminately this class of people. Many of them deserve praise for their humanity, and some for their skill in the management of the sick; but melancholy experience has taught us, that death is often the effect of the negligence, ignorance, and wickedness, which they discover in the following ways.

1st. They neglect to give sick people medicines, drinks, and diet, at the *time*, and in the *manner*, in which they are prescribed. I have reason to believe, I once lost a patient, from the failure of an emetic to produce the effect intended by it. I

discovered afterwards, that the nurse of this patient threw half of it into the fire, from a fear that the whole dose would work him to death. But further, nurses often neglect to change the body and bed-linen of the sick. They keep them too hot, or too cold, or they give them too little, or too much cool air. However trifling these acts of negligence may appear, I believe they have, in many hundred instances, rendered diseases mortal, that might have been cured.

2d. Nurses frequently assist diseases in destroying life, by their ignorance. I prescribed bleeding in the second paroxysm of a yellow fever of the present year. In my visit to the patient, who was the subject of this prescription, the next day, I asked to look at his blood. His nurse told me, she had declined having him bled, lest it should check a trifling sweat, which broke out soon after I left him. This patient died a few days afterwards, and I believe, chiefly from the shock given to his system by a paroxysm of fever, spending itself without an evacuation proportioned to its violence.

3d. Nurses render curable diseases mortal, by robbing sick people of those drinks and aliments, that are prescribed for them. This vice is the parent of greater evils, than either negligence or ignorance; for where the drinks, which are frequently of a spiritous nature, are taken by the nurses, the stupidity or intoxication, which is produced by them, leads them to treat sick people with cruelty, and thus to give a mortal direction to a simple disease.

4th. Nurses often desist from giving medicines in the most critical stage of diseases, from despair of their doing any good, or from a fear of their exciting unnecessary pain in our patients, in what they suppose to be the last moments of their lives. A knowledge of these facts in the history of nurses, is highly interesting to a physician. He will seldom be successful, without a strict attention to their conduct. In cases of imminent danger, he will find a great advantage in rescuing his patients from their hands, and committing the care of them exclusively to a friend, or a pupil who will faithfully comply with all his prescriptions.

2. Of the visiters of sick people who contribute to render curable diseases fatal, I shall first mention physicians who are not sent for, and who obtrude their visits, as friends. It will be impossible for patients to avoid asking them questions, and it will be difficult for them to answer them in such a manner as not to interfere with, or defeat the plan of cure of the attending physician.

The late Dr. .... would probably have survived the attack of the fever which destroyed him, had not his confidence in the remedies which were prescribed for him been weakened by several medical gentlemen, who paid him visits of friendship during his illness.

Visiters of another kind drawn from the neighbourhood, or from the circle of consanguinity, help to render simple diseases mortal, by their loud or long conversation, by their tales of sick-

ness and death from similar diseases, by urging them prematurely, or indelicately to settle their affairs, by sapping the confidence of sick people in their physician, by advising heterogeneous consultations, by dissuading them from the use of painful or disagreeable remedies, or by persuading them to make use of such as are pleasant, but feeble, and which they say have been effectual in supposed similar cases. I had once nearly lost a most accomplished female patient in consequence of some of her visiters having combined nearly all the offensive acts that have been mentioned, in her sick room. Her disease required frequent bleedings. One of her visiters implored her on her knees not to lose any more blood. Her intreaties were ineffectual. I persisted in bleeding her. To avoid the displeasure of her friends, who continued to visit her, she obliged her nurse to conceal her blood in a closet as soon as it was drawn. This lady recovered, and now enjoys good health.

Under this head of the causes of death in diseases not incurable, we must not pass over the influence of newspaper publications upon the practice and characters of physicians. The yellow fever of 1793, derived the principal part of its mortality from the publications in favour of bark, wine and the cold bath, and the yellow fevers of 1797, and 1798, were rendered fatal in many hundred instances, by the public and intemperate abuse of those physicians who attempted to cure it by mercury and blood-letting.

Nor let me forget to mention here the fatal effects of the public controversies of physicians, even when conducted in a liberal manner, in converting simple, into incurable diseases. The years 1793 and 1797, furnished many proofs of the truth of this remark, nor did the pernicious influence of the ill-timed disputes of those years, cease in our late epidemic. Physicians were in many instances employed with distrust, and there were some melancholy instances of persons perishing by the disease, under the direction of their own judgments, rather than commit themselves to the care of men, who had, by their dissentions, acknowledged the uncertainty of their profession. Some of those persons were so slightly affected, that they would have probably recovered under the most erroneous modes of practice that were used in the fever.

Thus have I pointed out the principal causes of death in diseases that are not incurable. If the operation of any one of those causes has been attended with fatal consequences, what must be the combined effects of them all?

Here gentlemen let us make a pause. Many useful reflections are suggested by the observations which have been delivered. I shall briefly mention such as are obviously connected with the subject of our lecture.

1. In the first place, let us do homage to the divine goodness. From what has been said it is evident, that our Creator has provided us in the most ample manner with the means of health and

life, and if they fail of producing their intended effects, it is only because they are rendered ineffectual, by the ignorance, folly and wickedness of man.

2. Let us duly appreciate the difficulties of a physician's studies and labours. He must embrace and controul as many objects in contending with a disease, more especially if it be of a dangerous nature, as a general does in arranging his troops, and fighting a battle. Death presses upon him from numerous quarters, and nothing but the most accumulated vigour of every sense, and faculty, exerted with a vigilance that precludes the abtrsaction of a single thought, or the repose of a moment, can ensure him success in his arduous conflict. It is possible for a patient to reward the mechanical parts of the labour and knowledge of a physician, but no compensation can ever be an equivalent for such paroxysms of solicitude and mental excitement as have been described, and which occur at all times, and more especially during the prevalence of great and mortal epidemics.

3. From what has been said we may learn that medicine is a more certain and perfect science than is commonly supposed. To judge of its certainty, by the limited nature of its usefulness, is to exclude from our calculations all the circumstances which have been mentioned that militate against successful practice. As well might we deny the fertility of a soil, because the owner of it neglected the proper seasons, and ways of cultivating it, as deny the certainty of medicine, be-

cause it does not produce salutary effects in spite of the combination of voluntary ignorance, error and vice, against them.

4. In contemplating our present want of success in curing diseases that are not necessarily mortal, let us apply ourselves with fresh ardour to remove the obstacles which are opposed to the perfection of our science. It was often and well said by the late Dr. Jebb, " that no good effort was lost." The seeds of improvement, and certainty in medicine, which are now sown, and seem to perish, shall revive in a future day, and appear in a large increase, in the health, and lives of our fellow-creatures. Let this reflection console us under the disappointments we meet with, in our attempts to extend the usefulness of our profession. The distance occasioned by time between the different generations of mankind, will soon be destroyed, and we shall find with inexpressible comfort, in the final settlement of our account of the good and evil we have done in this life, that our abortive labours of love to our cotemporaries, have not been lost, in the total amount of human benevolence.

5. I have said, that the ignorance, folly and wickedness of man, have hitherto defeated the purposes of the divine benevolence to his creatures. The force of human reason has long been tried without effect, as a remedy for folly and vice. The true character of this operation of the mind, has been discovered in an eminent degree, in the

absurd principles, and criminal pursuits which have lately actuated the greatest part of mankind. To remove the folly and vice, which obstruct the progress of medical knowledge, and assist in rendering curable diseases mortal, the influence of religion must be added to the operations of reason. I once conversed with an ingenious traveller in this city, upon the subject of language. He remarked, that it would never be perfect while morals continued in their present imperfect state, for words could never have a just and appropriate meaning, until a sacred regard to truth regulated their application to qualities and actions. This connection between morals and philology, thus pointed out, is not more intimate and necessary, than the connection of morals and medicine. I admit in this place of no morality, but that which is derived from religion. It is this divine principle alone, that can subdue all the folly and wickedness which concur in rendering curable diseases, incurable. Physical and moral evil began together. They have constantly kept pace with each other, and they must decline and cease at the same time. It is the business of reason to remove physical evil; moral evil can only be removed by religion; but to ensure the success of the former, it must be combined with the latter, for reason without religion, is like the clay formed image of our first parent, before his Creator infused into him the breath of life. It is true the dictates of right reason, and religion, are the same,

for they both hold out truth and virtue as our supreme good, but they differ in this particular, reason furnishes but feeble and transitory motives to pursue them, while religion, by its powerful and durable impressions upon the will, disposes us to chuse them as the only means of regulating our conduct, and ensuring our happiness.

I shall conclude this lecture by remarking, that I have many reasons of a personal nature, for being thankful to God for my preservation from death, during our late mortal epidemic, but none of them operate with more force upon my mind, than the privilege I this day enjoy of again meeting my beloved pupils, in order once more to disseminate among them, principles in medicine which I believe to be true, and which I know to be useful.

LECTURE IV.

ON THE

INFLUENCE OF PHYSICAL CAUSES

IN PROMOTING AN

INCREASE OF THE STRENGTH

AND ACTIVITY OF THE

INTELLECTUAL FACULTIES OF MAN.

DELIVERED NOVEMBER 18th, 1799.

GENTLEMEN,

OUR introductory lecture this year shall consist of a few remarks upon the influence of physical causes, in promoting an increase of the strength and activity of the intellectual faculties of man.

This subject is highly interesting to gentlemen of all professions, but it is peculiarly so to physicians, whose studies and duties require the utmost extent and force, of all the faculties of the mind.

I include in them, upon the present occasion, the understanding, the memory, and the imagination. The influence of physical causes upon the moral faculties of the mind, has been considered in another place.

I pass by the knotty question of the specific nature of the mind. It will be sufficient for the purposes of our present inquiry, to believe, that all its operations are the effects of bodily impressions. This belief accords with the old and long received axiom of the schools....viz. "Nihil est in intellectu, quod non prius fuit in sensu," that is, in other words, the understanding contains no knowledge of any kind, but what was conveyed to it through the avenues of the senses.

In this attempt to show the influence of physical causes, upon the intellectual faculties, I shall confine myself only to those agents which increase the quantity of mind. The causes which lessen it, belong to pathology, and will be enumerated in the second part of the institutes of medicine.

Before I enter upon our subject, I shall remark further, that it is a practical one. Our lecture of course will consist chiefly of facts, which I shall enumerate in an order that will render them intelligible to the youngest student of medicine.

I shall begin by taking notice of the relation of the strength, and activity of the intellectual faculties

1st. To aliment. Abstinence imparts to the memory and understanding, a high degree of vigour. The aid which those two faculties, when thus excited, afford to devotion, has rendered fasting common in most of the religions of the world. Travels and voyages furnish many instances of the wonderful fertility of the mind in

persons who are in danger of perishing from famine. Gamesters become acute, by abstaining from food for two days before they sit down to a card table. Such are the beneficial effects of inanition upon the mind, that Carneades, a noted philosopher in Greece, always made it a practice to increase it by taking a purge of Hellebore, before he disputed with Chrysippus a distinguished philosopher of the sect of stoics.

Temperance, which consists in eating less than the appetite calls for, has a friendly influence upon the operations of the mind. Sir Isaac Newton lived upon nothing but vegetables, while he was employed in composing his famous treatise upon Opticks. Our illustrious countryman, Mr. Edwards, tells us in his diary, that he always studied to most advantage, after a temperate meal. A hundred other instances of a similar nature might be mentioned. Even whole nations bear testimony to the good effects of simple diet upon the intellectual faculties. A broth of a black colour was supposed to have given the Spartans their mental pre-eminence over all their neighbours, and the barley broth of Scotland, probably contributes no small share to form the reputation which the people of that country have acquired for genius and knowledge, in every part of the world.

However great the benefits and praise of abstinence and temperance may be, I am obliged to add, there are a few instances to be met with, in

which a full diet, consisting of gross animal food, has produced great activity of intellect. Dr. Zimmerman informs us that Frederick II. king of Prussia, was a great eater, and many private accounts assure us, that some of the most distinguished literary characters of the present day are devoted to the pleasures of the table. As far as I have been able to learn, most of these acute and ingenious gluttons are, or have been subject to great depression of spirits. Large meals become of course necessary to elevate their minds to the ordinary grade at which the faculties act with vigour. The effects of a full diet upon most persons, is the reverse of what has been mentioned. It generally weakens the intellectual faculties, and instances are not wanting, of its having produced a total extinction of them in the most deplorable fatuity.

2d. The use of certain drinks is connected with vigour, and celerity in the operations of the mind. The intellects of Demosthenes in ancient, and of Dr. Haller in modern times, were kept in a state of regular excitement, by their drinking nothing but water. Wine, when taken in moderation, produces wit and humour in company. It multiplies images in the imagination of the poet, and sometimes creates new combinations of ideas in the understanding of the philosopher. Ardent spirits have sometimes had the same effects. Coffee and tea excite the understanding in the most agreeable manner. The former was the mental stimu-

lus of Voltaire. The latter was used so constantly for the same purpose by the celebrated Dr. Johnson, that the water in his tea-kettle, it is said, was seldom cold. Happily for the interests of science and literature, those two pleasant infusions have become the cordials of studious men in many parts of the world, and thereby rescued them from the baneful effects of intoxicating liquors.

3d. Opium exerts a friendly and agreeable influence upon the intellects. The late Mr. John Hunter never rose to deliver a lecture, without previously exciting his faculties by means of a dose of laudanum. Dr. Johnson, an ingenious physician, who visited our city in 1794, informed me, that during a residence of fourteen years in India, he had learned to drink, as a common beverage, an emulsion made of poppies, which he found to have a powerful effect in invigorating the faculties of his mind.

4th. Tobacco acts upon the understanding by its stimulus predominating over all other impressions, which, by distracting sensations, prevent the accumulation of that degree of excitement in the brain, that is favourable to a vigorous and connected train of thought. The well-known Hobbes always sat in his study inveloped in the smoke of ten or twelve pipes of tobacco. An eminent dissenting clergyman in England composed a system of divinity, with streams of saliva impregnated with tobacco, issuing from his mouth; and Frederick II, king of Prussia, resorted to a profuse use of

snuff, to elevate his mind above the pressure of the difficulties and dangers of his last seven years' war.

Where the use of this weed in any way has been habitual, we sometimes see the want of it followed by great languor in the intellectual faculties. This languor has been seen to yield, in an instant, to a pinch of snuff, or a segar. Let us not suppose, from these facts, that tobacco has a necessary and original influence in producing force or connection in the operations of the mind. It acts in this way, only upon persons who are accustomed to it. Thus, garlic imparts health to some people, but it is only to those who have been in the habit of living upon that loathsome vegetable. In persons who are unaccustomed to it, it excites sickness at stomach, and many other distressing commotions in the body.

5th. Different positions of the body, and different exercises, have a sensible influence upon the intellectual faculties. Descartes composed his works in bed. Mr. Brindley found a recumbent posture most favourable to the exertions of his genius, and hence we are told, he sometimes laid in bed for three days, when he was obliged to plan a new and difficult piece of machinery. Rousseau tells us in his Confessions, that most of his original thoughts were suggested to him in bed. I have known many other instances, in which, this posture of the body has proved favourable to the production of new, and the revival of old ideas. It is much assisted by the silence and darkness of

night, and by the empty state of the stomach in the morning.

In some persons the intellects are excited by a *standing* position. Col. Charles Townshend, (so much admired in the British House of Commons, about 30 years ago) was eloquent, only when he stood upon his feet, and so sensible was he of it, that he would often rise from his seat at a convivial table, in order to give more force and charms to his conversation. The late judge Wilson, whose abilities and knowledge, will never be forgotten by the friends of the revolution, and government of the United States, has assured me, that his ideas always flowed most easily when he was upon his feet. This was so much the case, that I have repeatedly observed him when closely pushed in an argument, or deeply engaged in conversation, to rise from his chair in company, and occupy a fixed position in a corner of a room. The late sir Joshua Reynolds always painted in a standing posture. I need hardly add, that his pencil has given celebrity to the country in which he lived. WALKING assists the operations of the intellectual faculties in an eminent degree. A sect of philosophers who were remarkable for studying and teaching, while they were employed in this exercise, obtained from thence the name of Peripatetics. Rousseau derived many of his new ideas, he tells us, from walking amidst rocks and mountains. RIDING, whether on horseback, or a carriage, favours thought, and hence the practice

of some travellers to carry common place books with them, to record their original thoughts the moment they occur, lest, in their number and variety, they should be lost before they reached the end of their excursions. Many of the elegant ideas of Mr. Pope, we are told, were excited in his brain by riding a trotting horse. The late Mr. Edwards found this mode of exercise to pour such a stream of new ideas into his mind, that in visiting his parishioners, he often retired from the road into the woods, and dismounted his horse, in order that he might, without interruption, empty the overflowings of his genius into his pocket memorandum book.

6th. Loose dresses contribute to the easy and vigorous exercise of the faculties of the mind. This remark is so obvious, and so generally known, that we find studious men are always painted in gowns, when they are seated in their libraries. Sometimes an open collar, and loose shoes and stockings, form a part of their picture. It is from the habits of mental ease and vigour which this careless form of dress creates, that learned men have often become contemptible for their slovenly appearance, when they mix with the world.

7th. Weakness, disease, and pain, have, in many instances, given a preternatural excitement to the human intellects. Cicero, Erasmus, Pascal, and Boilieu, were all known to their contemporaries, as much by the feebleness of their constitutions, as

by the strength of their minds. The great mental vigour, which has been observed in persons who are hump-backed, of which, the celebrated Roman orator Galba, and Mr. Pope, furnished memorable instances, is probably occasioned by the bodily weakness that is connected with deformity. But the effects of disease, whether occasional or chronic, in an evolving mind, are still more remarkable. How often do we hear our patients discover, upon a sick or death-bed, marks of reflection, and even eloquence, to which they were strangers when they were in health! It has been remarked, that abortive and sickly children make sensible men and women*. Disease, in these cases, acts in various ways. It imposes a restraint upon their appetites, it confines them to the company of their parents, and of persons who are capable of improving them, and it certainly keeps up an action in the brain, in common with other parts of the body, which tends to impart vigour to the intellectual faculties.

But further. There are several well-attested instances upon record, of persons speaking long-forgotten languages in the delirium of a fever, and one, related by Dr. Frank, of a man, who spoke a language in a diseased state of his brain, which he

* The first lord Lyttelton, and the late Mrs. Elizabeth Ferguson of Pennsylvania, were both seven months' children. The writings of the former will always remain as evidences of a great and vigorous understanding. The latter, for more than forty years, was admired by both sexes for her uncommon talents. What Dr. Johnson says of Mr. Burke, may be said of her, with a small addition. "Her conversa- "tion," and letters, "were a stream of mind."

had never learned. If this be true, he must have heard the words of it, without understanding their meaning, for it is impossible to conceive of the knowledge of even a single sound existing in the mind, unless it had been previously conveyed there through the medium of the ears.

In support of the influence of diseases in exciting the faculties of the mind, let us attend to the phenomena of diseases, which are produced by a morbid state of the brain. The intellects act here without order, but they act with uncommon celerity and force. Of this, every man must be convinced, who has paid the least attention to those operations in his own mind. The business of a day is often transacted in a dream, in the course of a single minute, and the perception of supposed impressions upon the imagination, are far more vivid than in the waking state. Even madness discovers the connection between morbid excitement in the body, and an increase of vigour and activity in certain intellectual operations. Who has not heard preternatural and brilliant effusions of eloquence, and wit in the cell of an hospital? The disease, in this instance, resembles an earthquake, which, in rending the ground, now and then throws upon its surface, with many offensive matters, certain precious fossils, which surprise and delight us by their novelty or splendour.

The effects of pain, in generating new ideas, or exciting old ones in a rapid succession, have been taken notice of in my account of the influence of physical causes upon the moral faculty. To the

facts I have there mentioned, I shall add two more. The famous pedestrian traveller, Mr. Stewart, informed me, that he had seen torture produce short intervals of reason in some idiots in Italy. I have known the pain of a large abscess upon the back, produce the same effect upon a man, who had been confined for madness, which ended in fatuity, above twenty years in the Pennsylvania hospital.

8th. Moderate sleep preserves and increases the energy of the mind. It is always in excess, when it exceeds the third part of an astronomical day. Much less has been found sufficient for health and comfort, in the most distinguished persons, who have lived in the republic of science and letters. Mr. John Westley, who died in the eighty-sixth year of his age, with all his faculties in their full vigour, seldom slept more than four hours in the four and twenty. The morning is more favourable to the rapid and easy exercises of the mind, than any other part of the day. The results of midnight-studies are said, " to smell of the lamp," because they generally discover marks of drowsiness or labour.

9th. Certain sounds have the power of exciting the faculties of the mind, into preternatural action. The effects of music upon them is well-known. Poets and mathematicians have, in many instances, found their talents for invention assisted by a tune upon a violin or a german flute.

10th. A certain temperature of the air, is favourable to the vigorous operation of the faculties of the mind. This temperature is different in different

people. It has generally that degree of heat in it, which is not accompanied with any sensation. Cold or heat, when perceptible, distract the excitement of the brain, and thereby interrupt thought. It is only when the exercises of the mind are conducted with uncommon vigour, that we lose our perceptions of the impressions of heat and cold. The suspension of those exercises, and even the least relaxation of them, is immediately followed by a sense of profuse and distressing sweats in summer, or of a painful coldness in the hands and feet in winter. The genius of Milton poured forth its sublime and harmonious ideas, only in the spring and autumn. I have never heard of but one person, whose mental faculties were improved by cold. It was a student of mathematics, who used to remove the embarrassment produced by a difficult problem, by taking off his wig, and exposing his bare head to the north-west wind, in the middle of winter.

11th. Rural and mountainous situations have an influence in exciting the intellects into vigorous action. The poets of every age and country have uniformly derived the principal stimulus to their minds from country scenes. The Eclogues of Virgil, the Windsor Forest of Pope, the Seasons of Thompson, and the Poems of Ossian, all bear witness to the truth of this remark. The effects of these rural scenes are much increased by their novelty. It is from the variety and constant succession of *new* objects, both natural and artificial, acting upon the mind, that young men sometimes

acquire, not only knowledge, but intellect by visiting foreign countries. It is from the same cause probably, that boys who appear to be deficient in capacity, learn well when sent from home to a city, or country school.

12th. Great height has produced, in several instances, uncommon activity in the intellectual faculties. An ingenious foreigner lately informed me, that he had once conversed with a man who had spent several hours upon the summit of the steeple at Strasburg, who told him that his mind, while there, was overwhelmed by the variety and originality of his thoughts. We have heard much of the pleasure which many persons have felt in traversing the upper regions of the air in a balloon. It is to be lamented that they have neglected to record, at the same time, the influence of that new situation, upon the operations of their minds.*

* The Abbe Spallanzani describes the state of his mind, upon the summit of mount Ætna, in the following words; "Seated in the midst of this theatre of the wonders of nature, I felt an indescribable pleasure from the multiplicity, and beauty of the objects I surveyed, and a kind of internal satisfaction and exultation of heart. The sun was advancing to the meridian unobscured by the smallest cloud, and Reaumur's thermometer stood at the tenth degree above the freezing point. I was therefore in that temperature which is most friendly to man, and the refined air I breathed, (as if it had been entirely vital) communicated a vigour and agility to my limbs, and a *life* and *activity* to my ideas which appeared to be of a celestial nature." Travels into the two Sicilies. vol. i. p. 285.

In his account of the islands of Felicuda and Alicuda, he adds further; "As to the content and tranquillity of these islanders, and the affection they bear their native country, I do not think I should greatly err, were I to ascribe it to the happy temperature of the climate, and

13th. The great variety and constant succession of new impressions, which occur in large cities, from business, news, company, theatres, shews, controversies and casualties, have a powerful effect in increasing, the strength and activity of the intellects. London and Paris have been for many centuries the hot-beds of men who have adorned, and enlightened the British and French nations. Such is the combined force of mental impressions in those great capitals, that they impart rapidity to the movements of the body, and particularly to the organs of speech. This is so much the case, that the citizens of London and Paris are often known by their walking, and speaking quicker than the inhabitants of villages, and country places.

14th. Silence and solitude have always been considered as favourable to intellectual attainments. It was to avoid noise, that the philosophers of Greece retired to groves, and sequestered

the quality of the air, which when pure, so much contributes to maintain in us the proper harmony between the solids and fluids, or the state of perfect health. A proof of this, I experienced in myself. Notwithstanding the continual and great fatigues I underwent in my excursions among those rocks, and notwithstanding my advanced age, I felt in myself an energy of body, an *agility* and *liveliness* of mind, and an animation of my whole frame, which I had experienced no where else, except on the summit of mount Ætna. In countries infested with impure air and thick vapours, I have never been able to apply myself to my favourite studies immediately after dinner, but under this sky, which is so rarely overclouded with vapours, I could write on the spot at any time, a part of those observations I am now about to present to the public. Vol. iv. p. 149, 150.

places, impenetrable to distracting sounds of all kinds. The influence of solitude upon the understanding, has been ably pointed out by Dr. Zimmerman. To be useful, silence and solitude should be temporary, and always alternated with company.

14th. I hinted formerly at the beneficial effects of darkness upon the mind. Corneille shut his windows, and created an artificial darkness when he composed his plays. Mr. Woodfall always sat with his eyes closed, when he filled his memory with the speeches of the celebrated speakers in the British house of Commons, in order that he might copy, and print them afterwards in his news-paper. It was to obtain the utmost advantages from the absence of all the distracting objects which are obtruded by the light of the sun, that the famous council of Areopagus in Athens held all their sessions at night, and in the open air. The effects of perpetual darkness upon the mind in blind people are well known. Homer and Milton probably owed much of the vigour and extent of all their intellectual faculties, to the loss of their sight.

From a review of all the facts that have been mentioned, it is obvious, there is the same variety in the texture of the minds, that there is in the bodies of men. It would seem likewise, as if there was a certain point at which impressions produced the greatest vigour and celerity in the operations of the intellectual faculties. This point is influenced by the previous state of the brain with respect to eleva-

tion and depression. The impressions might have been divided into stimulating and sedative, were it not for the variety we observe in their effects, according to the different state of the brain in different people, and in the same people, at different times.

Having enumerated briefly all the physical causes which act obviously upon the mind in enlarging its faculties, I shall proceed next to mention a few more, which, though not admitted to be physical, act in the same way, by exciting, multiplying, and modifying motions in the brain, and thereby producing more vigorous emissions of thought.

1. There are certain studies which are calculated to increase the strength of the intellectual faculties in early life. They are, first, *natural history*. This science is strongly recommended to our notice and attention, by its having been the first study of the father of mankind, in the garden of Eden. It furnishes the raw materials of knowledge upon all subjects. By the fermentation they excite in the mind, they prepare it for embracing with facility the principles of general science.

2d. The amusements *of Checkers, Chess, and Riddles*, are calculated to impart strength to the minds of children, after they pass the seventh or eighth year of their lives.

3d. The study of *arithmetic and the mathematicks* have long been celebrated for their efficacy in awaking, strengthening, and arranging the

thinking faculties. Where there is an inaptitude to them, they have sometimes been known to have a contrary effect. In no instance should they be obtruded upon young people, where they discover an inability to acquire them with facility or pleasure.

We sometimes meet with children who astonish us with the rapidity of their attainments in every kind of knowledge. These children are generally destined by superstitious people, not to "scratch a grey head." Many of them die prematurely, from the disproportion between the exercises of their minds, and the strength of their bodies, while those who survive these early achievements of genius, become sickly; or weaken their intellects before they attain to maturity. To prevent these consequences of premature vigour in their faculties, they should be seduced from study, by teaching them useful or ornamental *bodily* exercises. Rousseau, though often erroneous and paradoxical in his system of education, is just in saying, the exercises of the body should always precede those of the mind. I never can forget the pleasure with which I saw, for the first time, this excellent remark exemplified at the house of a gentleman in the neighbourhood of Edinburgh, who introduced one of his daughters, then about five years old, with a little spinning-wheel, at which she worked with great dexterity, singing at the same time a well known song, suited to her employment, to the great delight of a large

and respectable company. The celebrated David Hume, Dr. Blacklock, and James Boswell composed a part of the guests at this agreeable entertainment.

2. Changing the objects of study, has a considerable influence in begetting strength and activity in the intellectual faculties. The new objects of study, act according to their nature, either as a fresh stimulus to the brain, or by producing a moderate relaxation in such parts of it as have been unduly exercised. The late lord Chatham made it a practice to excite his genius by reading a few pages of Dr. Barrow's theological works, before he took a part in the debates of the British House of Commons. The late Dr. Finley, frequently read a portion of Mr. Howe's meditations for the same purpose, when he preached without notes. Rousseau reduced the extravagant tone of his mind, by descending to light studies. Mr. M'Laurin relieved himself from the fatigue induced by his mathematical researches, by reading novels. Writing a letter, or reading a newspaper, has in some instances enabled persons to solve problems, which before eluded the utmost exertions of their powers.

3. The exercises of the faculties in *composing*, whether in prose or poetry, has a wonderful effect in strengthening and facilitating their operations. It is for this reason, that the composition of letters, declamations, disputes, and orations form an essential part of education, in all well-conducted

seminaries of learning. In attending public instruction, young men are *taught* by their masters, but in committing their thoughts to paper, they *teach* themselves. " The man," says Dr. Clark, " who wishes to become eminent in any profes- " sion, must *read* much, *think* much, and *write* " much." The last of these exercises of the mind is indispensably necessary to give the highest vigour to a mind of which it is capable. Dr. Priestley has made it a constant practice to write upon every subject which he wished to understand perfectly, and to this thirst for extensive and accurate knowledge, may be ascribed, in part, his numerous publications. Even wit is evolved by means of the ink-stand. Dr. Arbuthnot, the friend of Swift, never said a witty thing in company, but his miscellaneous writings shew, that he possessed that talent in an eminent degree. The wit and satire of Peter Pindar flow likewise only upon paper. In conversation, it is said, he is not distinguished by them, from other men.

It has been remarked, that our dreams are most connected, when we imagine ourselves to be engaged in conversation. Speaking arrests the velocity of our thoughts, and gives them some degree of order. Composing acts in like manner, but with a greater effect in retarding the rapid succession and flight of our ideas. It is for this reason, that we often observe great and original thoughts evolved in a letter, by men, who are dull in conversation, and devoid of genius in the common

business of their lives. Dr. Franklin was so sensible of the strength and correctness the mind derived from a slower current of ideas in writing, than in barely thinking; that he never undertook any important enterprise, without first committing to paper all the arguments for and against it, and afterwards placing them before his eyes, while he deliberated and decided upon it.

As the faculties have a reciprocal action upon each other, they should be all exercised together, or in a close succession. The memory should constantly be employed in administering materials for the understanding to act upon, and the imagination should occasionally be stimulated to furnish its images to both, by a recurrence to the poets. A page of Milton, or Young, or a line in Shakspeare, is, to a mind rendered languid by intellectual pursuits, like wine to the body, when debilitated by exercise or labour.

4. The passions, when excited, have a considerable influence upon the intellectual faculties. Lord Kaimes says, " he has seldom known a man " of great genius, who was not more or less under " the dominion of some strong passion." Alexander and Cæsar owed much of the force of their military talents to their ambition. Pride gave to the soul of Cato all its elevation, and vanity acted powerfully in producing the eloquence of Cicero. Avarice, when inflamed by habits of gaming, also love, anger, and all the other passions of less force, stimulate the intellects, and thereby dispose them

to evolve a greater quantity of thought. Even grief, after its first paroxysm subsides, has the same effect. The poems of Ovid and Dante, written during their banishment, the Night-Thoughts of Young, and the monodies of Lyttelton and Shaw, are inimitable proofs of the truth of this assertion. "Vexation" says Van Helmont, "brings forth understanding*." This is strictly true. Hence we seldom see young men, who begin the world without patronage or friends, rise to eminence and fame, who have not been exposed to frequent causes of irritation, from envy and malice, in early life. It would seem from this fact, that action and reaction are equal, in the strife between opposition and talents. While the former creates talents, the latter are created by opposition.

In the confessions of Rousseau there is a seeming exception to the influence of the passions in giving energy to the understanding. He says, when he was much agitated, he lost, for a while, the command of his intellectual faculties. In this case, they were stimulated beyond their power of action, by the extravagant force of his passions. The same thing happens from a great excess of stimulus upon all the moving fibres of the body.

5. The *will* should never be idle in those persons, who wish to possess great vigour and activity of mind. Slaves are stupid, because they have no wills of their own. Business, which gives the will

* Vol i. p. 470. On the power of medicine.

constant employment, should always be blended with study. It is because the pursuits of business act so powerfully in invigorating the understanding, that professional men are generally preferred for great civil appointments, to men who pass their lives among books, in a state, in which the active powers of the mind have no objects to stimulate them. It is remarkable, the faculties, after having been engaged in busy scenes, languish in retirement, and that men, who follow business of some kind, whether public or private, seldom outlive, in extreme old age, the vigour of their minds.

6. *Conversation* strengthens the intellectual faculties. Dr. Franklin acknowledged, that some of his most original ideas were suggested to him by conversing with persons, who were ignorant of the subjects upon which they instructed him. I once knew a gentleman, who wrote occasionally for the press, who made it a practice to draw his friends into a conversation with him upon the subjects on which he had been writing, before he committed his essays to the public eye; by which means, he corrected mistakes, and often added to the merit of his publications.

7. The exercise of the intellectual faculties upon *certain* specific subjects, imparts strength and activity to them. These subjects are *Politics* and *Religion*. I have elsewhere taken notice of the effects of liberty in producing the greatest quantity of animal life. It promotes the same increase of the quantity of mind. The pre-eminence of the

Greeks and Romans in intellect, over all the ancient nations in the world, was derived chiefly from the popular form of their governments. In monarchies, the birth or death of a prince, the sickness of a king, and the events of a war, are the principal objects, that, by awakening the attention of a whole nation, infuse vigour into the public mind. But in republics, the same vigour is produced every two or three years by general elections. These important seasons, in which heaven renews one of the dividing lines between man, and the brute creation, interest every feeling of the heart. They stimulate the passions, which afterwards act upon the understanding, and impart to it a force, which prevents its relapsing into the repose of public apathy, during the intervals of a general suffrage. From a strict attention to the state of mind in this country, before the year 1774, and at the present time, I am satisfied, the ratio of intellect is as twenty are to one, and of knowledge, as an hundred are to one, in these states, compared with what they were before the American revolution.

The sublime and various objects of religion are calculated to expand the human intellects to their utmost limits, and to impart to them a facility of action. We read, that the face of Moses shone, when he descended from conversing with his Maker upon mount Sinai. The contemplation of the divine character and perfections never fails to produce a similar splendour in the human mind. But

But further. It is a fact worthy of notice, that the most enlightened parts of the world, in general and useful science, are those, in which the doctrines of the Christian religion are taught and believed. Its effect, in preparing the mind for the attainment of human knowledge is happily described by Mosheim, in his Ecclesiastical History, in the following words. " The reception of Christianity," says our author, " polished and civilized in an extraordinary manner, the rugged minds of the valiant Normans; for those fierce warriors, who, under the darkness of paganism, had manifested the utmost aversion to all branches of knowledge, and every kind of instruction, distinguished themselves *after* their conversion, by their ardent application to religion and the pursuit of learning*."

8. ASSOCIATION acts powerfully upon the intellects through the medium of the memory; hence we find professional men often contract a predilection to particular situations, and objects in the prosecution of their studies. These situations from being at first imposed by accident or necessity, are sometimes in the neighbourhood of a noisy street, or in the corner of a fire-place, surrounded by a family of talking or playful children, but they are more frequently in sequestered places, remote from noise. It is from the influence of association upon the activity of the mind, that brilliant men sometimes become dull from acci-

* Vol ii. American edition, p. 448.

dentally losing their customary chair at a club. It is from the same principle, that a boy can say his lesson best out of his own book. Even the dirt, and dogs ears (as they are called) with which it is defaced, serve to awaken the recollection of words or ideas which have been associated with them in his mind.

It might add to our knowledge of the subject before us, to mention the circumstances which diminish the force and activity of the human intellects. But these will be taken notice of when we come to treat of the remote causes of the diseases of the mind. I shall only deliver a few remarks in this place, which appear to be intimately connected with our present subject.

1st. The first is taken from Dr. Hartley. It is, that wit of all kinds, and more especially that species of it which is called punning, has a tendency to weaken the understanding by unduly exercising the imagination. Whether it was upon this account, or because persons who possessed this talent, seldom displayed it without giving offence, I know not, but I well recollect the late Dr. Wetherspoon used often to say, " that he would correct a child almost as soon for being witty, as for telling a lye." An opinion equally degrading of this talent was held by the Areopagus of Athens, and hence we read of a member of that council who resented in an open court, a detail of his public conduct in which he was said to have played upon a word.

2d. As a means of retaining the strength and activity of the intellectual faculties, no portion of them should be wasted upon unprofitable studies. We hear much of œconomy in the expenditure of money and time, but few people think of the precious nature of this excellent virtue as applied to the expenditure of intellect. The attention which is employed in reading novels, plays, and in idle conversation, carries away with it a portion of the excitability of the intellectual faculties, which can never be recovered; and thus deducts from that vigour which might have been profitably employed upon useful subjects.

3d. Several of the sources of physical influence which have been mentioned, shew us the impropriety of immuring ourselves in a cell in order to acquire knowledge. It is by the exercise of the body, and the collision of our intellects, by means of business, and conversation, that we impart to them, agreeable and durable vigour. Men may learn to *speculate* in a closet, but they will learn to *reason*, only by pursuing some active employment. There is the same difference between the knowledge acquired in the former, and latter way, that there is between the imaginary wealth acquired by speculation, and the solid property which is acquired by regular and honourable commerce.

4th. As the products of wealth by trade are always in proportion to the capital which is employed for that purpose, so the acquisition of knowledge is always in a ratio to the quantity of

it which is already possessed. A few ideas upon three or four subjects impart vigour and activity only to a portion of the mind, while a large mass of ideas diffuses vigour and celerity of motion to every part of it, and thereby enables it to acquire knowledge with more facility and expedition. The degrees of vigour, and the number and exility of motions which the mind is capable of receiving by all the causes that have been enumerated, elude our present powers of calculation. Our inability to measure its attainments, will be felt more sensibly, when we reflect, that knowledge, and the intellectual faculties, will mutually increase each other, to the latest period of our lives. The effects of this action and reaction, in making additions to the intellects and knowledge, lead us to admit the assertion of Condorcet, that the time will come, when all the knowledge we now possess, will appear to the generations that are to succeed us, as the knowledge now possessed by children, appears to us. It has been said, "learned men know what is *past*, weak men what *is*, but wise men only know what is to *come*." It is possible the knowledge of what is past and present, may be so accumulated, and combined, as to render prescience, as far as is connected with our interest and happiness in this world, one of the attributes of the human mind. Perhaps this may be a part of the means that shall be made use of by Divine Providence, to produce the general diminution of evil, in our world, which is

foretold in the prophetic writings of the old testament. This conjecture derives some strength from our possessing already the embryos of this kind of knowledge, in the certainty of the predictions of changes in the weather, and of the appearance, and issue of many diseases. But we must not drop this subject here. If such will be the attainments in knowledge, from the above causes, in this life, what incalculable additions to it, may we not expect, from the evolution of the same faculties, acted upon by many new impressions, in a future state of existence? Let us carry our imaginations forward, and take a view of the mind after it has continued in its renovated state ten thousand years. The difference at that period, from its most enlarged attainments in this world, will probably be much greater, than its present difference in knowledge and intellect is, from those of the meanest insect. But let us protract the period of its existence to a million of years. Here we behold a disproportion between its terrestrial and celestial states of knowledge and intellect probably equal to that which now exists between the dimensions of a grain of sand, and our globe. It would be criminal not to carry our thoughts one step further. How infinitely great must that Being be, whose works, and attributes shall constantly furnish new objects for these constant, and growing exercises of the mind. Forever receding from them, in proportion as they are expanded, after millions of ages have revolved, the great

FATHER of the universe will be more and more incomprehensible, and thereby....But I forbear. The mind sinks beneath the weight of the infinite object of its future contemplations, and of its own sublime and happy destiny.

5th. From what has been delivered, gentlemen, it appears, that the enlargement and activity of our intellects, are as much within our power, as the health and movements of our bodies. This lesson has often been obtruded upon us by the entertaining spectacles of learned pigs, dogs, and several other animals. If this remark were not a just one, dulness and ignorance would not, by an innate law of our natures, be the objects of universal contempt. The aukwardness or affectation of the body, which are the effects of wilful negligence or art, are, by a similar law of our natures, treated in the same manner. Fatuity and bodily defects, which are derived from birth, or afterwards induced by disease, meet with a very different treatment from the world. They are, at first sight, the objects of universal sympathy.

6th. Many of the facts which have been mentioned, teach us, in a forcible manner, duly to appreciate the blessings of civilization, science, and religion. The innumerable stimuli, with which they abound, not only *create* mind, but from the variety and difference of force, in which they operate, they produce that variety in its forms, which renders the study and knowledge of it so agreeable and useful. A dull and disgusting sameness of

mind characterizes all savage nations. Mr. Stewart, the pedestrian traveller, took some pains to establish the truth of this assertion. While in Canada, he was introduced by colonel Brandt to a number of Indian men. He asked each of them separately, why he painted himself? he said, " to look terrible in war." He then asked him, why his nation did not cultivate the arts of peace, which he described in as captivating a manner as he was capable. They appeared stupified with the novelty of the ideas he suggested, and each man answered, as if by previous concert, " that a warrior was a great man."

7th. The facts which have been mentioned, serve further to refute the objection which has been urged against the Mosaic account of the whole human race being descended from a single pair, from the weakness of the intellects in certain savage and barbarous nations. This weakness is as much the effect of the want of physical influence upon their minds, as a disagreeable colour and figure are of its action upon their bodies.

I shall conclude our lecture by remarking, that much remains yet to be known upon this subject. It is possible, the strength of the intellects may be improved in their original conformation, as much as the strength of the body, by certain mixtures of persons of different nations, habits, and constitutions, in marriage. The mulatto has been remarked, in all countries, to exceed in sagacity, his white and black parent. The same remark has

been made of the offspring of the European and North American Indian. The physician, whose name, and long residence in the East-Indies, were mentioned in another place, informed me, that the marriages of Danish men, with the East-India women, produced children, that had the countenances and vigorous minds of Europeans, but that no such results appeared in the children of marriages of East-India women with the males of any other European nation. Similar facts may be very common, but not observed. It is probable, the qualities of body and mind in parents, which produce genius in children, may be fixed and regular, and it is possible, the time may come, when we shall be able to predict, with certainty, the intellectual character of children, by knowing the specific nature of the different intellectual faculties of their parents. As conjugal happiness, in its positive degree, is often the result of dissimilar tempers, so, strong intellects in children, may be the product of a difference in the mental faculties of the two sexes. There is one fact, which favours this opinion. A late French writer has remarked, that judgment in one parent, and a predominance of imagination in the other, produce, in their offspring, the most perfect and well-balanced minds.

8th. In the former part of this lecture, I took notice of the effects of certain liquors in invigorating the mind. May there not be some production of nature or art, yet undiscovered, that shall act in

such a manner upon the brain, as to enlarge and strengthen the intellectual faculties, so as to enable them to accommodate to difficulties and emergencies, in the contemplative and active pursuits of life? Kempfer tells us, that he was treated with a liquor, in Persia, called Peganum, which produced suddenly, the most extravagant sensations of joy. They continued, he says, for three days, and then left him, with an oblivion of all he had said and done, during his paroxysm of mental delight. Perhaps there exists upon our globe, a substance, which shall produce similar transports in the excitement and exercises of the intellectual faculties. This conjecture is rendered probable, by a fact, related by Ettmuller. He tells us, that he had known three cubebs taken every day, to have a wonderful effect in invigorating the memory. Should this boon be reserved for the human race, it will be humane and pious to wish, that it may not be found out, until men shall cease to concentrate the utmost force of their faculties, in discovering new modes of private and public oppression, and new instruments for inflicting pain and death upon each other.

LECTURE V.

ON

THE VICES AND VIRTUES

OF

PHYSICIANS.

DELIVERED NOVEMBER 2d, 1801.

GENTLEMEN,

MAN is a compound of good and evil. These dispositions appear in different proportions, according to the circumstances in which he is placed. They are much influenced by different states of society, and by different pursuits and occupations in life. Every profession has its peculiar vices and virtues. The business of our present lecture shall be to point out such of them as are attached to the profession of medicine. This investigation I hope will be useful, by teaching you in your outset in life, to avoid the former, and to cherish the latter. By these means, you will at once render the practice of physic, and your own characters, more respectable. You will like-

wise be enabled thereby, to bear with more composure and fortitude, the vexations and distresses which are connected with a medical life.

The vices of physicians may be divided into three heads.

I. As they relate to the Supreme Being.

II. To their patients, and

III. To their professional brethren.

1st. Under the first head I shall begin by lamenting, that men whose educations necessarily open to them the wisdom and goodness of the Creator, and whose duties lead them constantly to behold his power over human life, and all its comforts, should be so very prone to forget him. This they evidence by their neglect of that worship, which is paid to him in different forms, under true, or false names, in every country. If it be a fact, that physicians are more inclined to infidelity, than any other body of men, it must be ascribed chiefly to this cause. To correct this disposition, it is necessary we should be frequently reminded of the arguments on which Christianity is founded, and of the numerous and powerful motives which enforce a belief of it. It is in places of public worship that these arguments and motives are delivered to the most advantage, and it is by neglecting to hear them, that the natural propensity of the human heart to infidelity, is cherished and promote. This vice of the understanding has no natural alliance with the practice of physic, for to no secular profes-

sion does the Christian religion afford more aid, than to medicine. Our business leads us daily into the abodes of pain and misery. It obliges us likewise, frequently to witness the fears with which our friends leave the world, and the anguish which follows, in their surviving relatives. Here the common resources of our art fail us, but the comfortable views of the divine government, and of a future state, which are laid open by Christianity, more than supply their place. A pious word, dropped from the lips of a physician in such circumstances of his patients, often does more good than a long, and perhaps an ingenious discourse from another person, inasmuch as it falls upon the heart, in the moment of its deepest depression from grief. There is no substitute for this cordial in the materia medica.

2d. An undue confidence in medicine, to the exclusion of a Divine and Superintending Power over the health and lives of men, is another vice among physicians. A Dr. ...., in New-York prescribed on an evening, for a sick man. The next day he called and asked him how he was, "Much better (said he) thank God." "Thank God! (said the doctor) thank me, it was I who cured you."

3d. Drunkenness is a medical vice, which offends not only God, but man. It is generally induced by fatigue, and exposure to great heat and cold. But a habit of drinking intemperately is

often incurred by a social spirit, leading physicians to accept of offers of wine, or spirits and water, in every house they enter, in the former part of the day. Good men have often been seduced and ruined by this complaisant practice. I shall hereafter mention to you the safety, and advantages of eating a little fruit, or portable aliment, in preference to drinks of any kind before dinner, or when the body is in a languid state from fatigue. Drunkenness is a hideous vice in any person, but peculiarly so in a physician. If it rendered him offensive to his patients only by the smell it imparted to his breath, it should be a sufficient motive to deter him from it, but its evils are much more serious and extensive. It corrupts his manners, impairs his judgment, and renders him unfit to prescribe for the sick. Two instances of death have occurred, within my knowledge, from patients taking excessive doses of liquid laudanum, from the hands of a drunken physician.

4th. The members of our profession have sometimes been charged with an irreverent, and profane use of the name of the Supreme Being, but from the general disrepute in which that vice is now held in genteel life, I am happy in adding that it is less common among physicians, than it was forty years ago.

II. In speaking of the vices of physicians as far as they relate to their patients, I pass over numerous acts of imposture. They are all more or

less contrary to good morals. I shall at present only mention the more obvious and positive vices which belong to this head. They are

1st. Falsehood. This vice discovers itself chiefly in the deceptions which are practised by physicians with respect to the cause, nature, and probable issue of diseases. What oceans of falsehoods have issued from the members of our profession, upon the cause of pestilential epidemics, in all ages and countries! How many false names have been given to them to conceal their existence! In England the plague of 1664, was called, for several months, by the less alarming name of a spotted fever. In the United States of America, the yellow fever, is deprived for a while of the terror it ought to produce in order to its being avoided, or cured, by receiving the name of a common remittent, or by being ascribed to intemperance, or to some cause which only excited it into action. Equally criminal is the practice among some physicians of encouraging patients to expect a recovery, in diseases which have arrived at their incurable stage. The mischief done by falsehood in this case, is the more to be deplored, as it often prevents the dying from settling their worldly affairs, and employing their last hours in preparing for their future state.

This vice in physicians sometimes appears in histories, of cases that never existed, and of cures that were never preformed. When it assumes

this hateful form, its evil consequences become extensive and durable, from the difficulty with which it is detected and exposed.

2d. Inhumanity is a vice which sometimes appears in the conduct of physicians to their patients. It discovers itself in the want of prompt and punctual attendance upon the sick, and in a careless or unfeeling manner in sick rooms. This insensibility to human suffering is very happily exposed in the New Bath Guide; I should have supposed it too highly coloured, had I not heard of similar instances of inhumanity in several members of our profession. A lord of session, once fell from his seat in the court of Edinburgh in an apoplexy. A physician was called in haste to see him. He applied his fingers to his pulse. His brother judges, and a croud of spectators waited with solicitude to know whether he still retained any sign of life. " He is dead," said the physician, and in the same breath, said to a person who stood next to him, " Pray sir, shall we have a Spanish war." But more shocking to humanity, was the answer given by a physician in this country, to a person who called upon him to see his father, and in order to quicken his steps, told him his father was dying. " Then (said he) I can do him no service. Let him die, and be d——d." It is some consolation to the lovers of the healing art to recollect, that such instances of a want of sympathy and decency in physicians are very rare,

and that examples of a contrary disposition, as I hope to prove hereafter, are more common amongst them.

3d. Avarice, in all its forms of meanness, oppression, and cruelty, is a frequent vice among physicians. It discovers itself,

1st. In a denial of services to the poor. I once heard a physician's eminence estimated by the fewness of his bad debts, and by his doing no business, for which he was not paid. We had a trader in medicine of this kind in Philadelphia, many years ago, who constantly refused to attend poor people, and when called upon to visit them, drove them from his door by a name so impious, that I shall not mention it. This sordid conduct is sometimes aggravated by being exercised towards old patients, who have been unfortunate in business, in the evening of their lives. We owe much to the families, who employ us in the infancy of our knowledge and experience. It is an act, therefore, of ingratitude, as well as avarice, to neglect them under the pressure of age and poverty, as well as sickness, or to consign them over to young physicians or quacks, who are ignorant of their constitutions and habits, and strangers to the respect they commanded in their better days.

2d. Avarice, in physicians, discovers itself in their extravagant charges, and in the means which are sometimes employed to obtain payment for

such debts as are just. I have heard of a surgeon in the British army, who made it a practice to take the swords of the officers, as a security for the future payment of his bills. A physician, in this country, once took, by legal force, a solitary cow from a poor woman, on which she chiefly relied for the subsistence of her family. But it is after the death of the master of a family, that the avarice of physicians appears in its most distressing and cruel forms. Behold one of these harpies enter into the house of a widow, who has just been bereaved of her husband, on whose daily labour she depended for her daily support. Unmoved by her tears, and by the sight of a group of helpless children, calling upon her, perhaps in vain, for their customary articles of food, sternly he demands an immediate settlement of his accompt. Gracious Father of the human race! touch the heart of this wretch with a sudden sense of thy justice, and cause him to feel the enormity of his crime! But if, by persevering in habits of extortion, he has forfeited thy reclaiming mercy; extend thy pity to the family which thou hast sorely afflicted, and discover to them, by some unexpected act of thy bounty, that thou art indeed a friend to the fatherless, and the widow's God!

3d. To undertake the charge of sick people, and to neglect them afterwards, is a vice of a malignant dye in a physician. Many lives have been lost, by the want of punctual and regular attention to the varying symptoms of diseases; but still more

have been sacrificed by the criminal preference, which has been given by physicians to ease, convivial company, or public amusements and pursuits, to the care of their patients. The most important contract that can be made, is that which takes place between a sick man and his doctor. The subject of it is human life. The breach of this contract, by wilful negligence, when followed by death, is murder; and it is because our penal laws are imperfect, that the punishment of that crime is not inflicted upon physicians who are guilty of it.

4th. It is a vice in a physician to study, more to please, than to cure his patients. Dr. Young calls such preachers, as prefer pleasing their hearers, to instructing and reforming them, " downy doctors." The same epithet may be applied to physicians, who prescribe for the whims of their patients, instead of their diseases. The life of a sick man should be the first object of a physician's solicitude, and he is not prepared to do his duty, until he can sacrifice his interest and reputation to preserve it.

5th. The last vice I shall mention under this head, is, obstinacy in adhering to old and unsuccessful modes of practice, in diseases which have yielded to new remedies. Dr. Chisholm relates several flagrant instances of this vice, in the treatment of the yellow fever, in his late essay upon that pestilential disease in the West-Indies. This obstinacy was the more criminal in the physicians alluded to, as they had constantly before their eyes,

numerous and irrefragable evidences of the success of a different mode of practice, which the Doctor had introduced into the islands. Many similar instances of this hoary headed indifference to human life, are to be met with in all countries.

III. Agreeably to our order, I should proceed next to mention the vices of physicians towards their professional brethren, but for obvious reasons, I shall pass over this disagreeable part of our subject in silence, and hasten, with pleasure, to speak of the VIRTUES of physicians.

Here a delightful field opens to our view. It will be impossible to mark every part of it with our footsteps. I shall, therefore, only mention those virtues, which are most conspicuous and practical in the members of our profession.

1. Piety towards God has, in many instances, characterized some of the first physicians in ancient and modern times. Hippocrates did homage to the gods of Greece, and Galen vanquished atheism for a while, in Rome, by proving the existence of a god, from the curious structure of the human body. Botallus, the illustrious father of blood-letting, in Europe, in a treatise, "de munere medici et ægri," advises a physician, when called to visit a patient, never to leave his house, without offering up a prayer to God, for the success of his prescriptions. Cheselden, the famous English anatomist, always implored, in the presence of his pupils, the aid and blessing of heaven upon his hand, whenever he laid hold of an instrument, to perform a surgical

operation. Sydenham, the great luminary and reformer of medicine, was a religious man. Boerhaave spent an hour in his closet, every morning, in reading the scriptures, before he entered upon the duties of his profession. Hoffman and Stahl were not ashamed of the gospel of Christ, and Dr. Haller has left behind him, an eloquent defence of it in a series of letters to his daughter. Dr. Lobb exhibited daily, for many years, to the citizens of London, his reliance upon divine aid to render his practice successful, by inscribing "Deo adjuvante" upon his family arms, which were painted upon his chariot. Dr. Fothergill's long life resembled an altar, from which, incense of adoration and praise ascended daily to the Supreme Being. Dr. Hartley, whose works will probably perish, only with time itself, was a devout Christian. To the record of these medical worthies, I shall add but one remark, and that is, the weight of their names alone, in favour of revelation, is sufficient to turn the scale against all the infidelity, that has ever dishonoured the science of medicine.

2. Humanity has been a conspicuous virtue among physicians in all ages and countries. It manifests itself,

1st. In their sacrifices and sufferings, in order to acquire a knowledge of all the different branches of medicine. For this, they spend months, and years, in dissecting dead bodies, or in the smoke of laboratories; or in visiting foreign, and sometimes uncivilized countries; or in making painful

and expensive experiments upon living animals. Many physicians have contracted diseases, and some have perished in these loathsome and dangerous enterprizes, all of which are intended for the benefit of their fellow-creatures.

2d. No sooner do they enter upon the duties of their profession, than they are called upon to exhibit their humanity by sympathy, with pain and distress in persons of all ranks. It is this heaven-born principle, which produces such acts of self-denial of company, pleasure, and sleep, in physicians. It is this, which enables them to sustain the extremes of heat and cold, and the most laborious exertions of body and mind. Hippocrates, who furnished the earliest, has likewise exhibited the most prominent example of this divine form of humanity, of any physician that ever lived. One while we behold him travelling through the cities and provinces of Greece, dispensing health and joy wherever he went. Again, we see him yielding to the solicitations of neighbouring princes, and extending the blessings of his skill to foreign nations. " There was but one sentiment in his soul" says Galen, " and that was the *love of doing good*, and in the course of his long life, but a single act, and that was the *relieving the sick*." It was, from the influence which his humane feelings had upon his judgment, that he has left the following remark upon record, in speaking of the education of a young man, intended for the study of medicine. " Does he suffer" says the venerable man, " with

the sufferings of others? does he naturally feel the tenderest commiseration for the woes incident to his fellow mortals? you may reasonably infer that he will be passionately devoted to an art, that will instruct him in what manner to afford them relief." This noble sympathy, in physicians, is sometimes so powerful, as to predominate over the fear of death; hence we observe them to expose, and frequently to sacrifice their lives, in contending with mortal epidemics. The United States have lately furnished numerous instances of death in physicians, from their ardent attachment to their patients. The grave-yards of Philadelphia alone, hold the precious relicts of three and twenty members of our profession, who have died martyrs to this affectionate and heroic sympathy, since the year 1793.

3d. Humanity in physicians manifests itself in gratuitous services to the poor. The greatest part of the business of Dr. Sydenham, seems to have been confined to poor people. It is true, he now and then speaks of a noble lady, and of a learned prelate, in the history of cases, but these were accidental patients. The fashionable part of the citizens of London were deterred from consulting him, by the clamours excited against his new practice, by his medical brethren, particularly by Dr. Morton, whom Dr. Haller calls "the rival and adversary" of this excellent man. Dr. Boerhaave did a great deal of business among the poor. In his attendance upon them, he discovered, it is said,

more solicitude and punctuality, than in his attendance upon his rich patients. Being asked by a friend his reason for so doing, he answered, "I esteem the poor my *best* patients, for God is their pay-master." Dr. Cullen spent the first years of his long and useful life, in doing business, for which he was never paid, and when he rose to the first rank in his profession, did not forget that humble class of people, from whom he derived his knowledge and reputation. Dr. Fothergill devoted an hour every morning, before he left his house, to prescribing for the poor, and in his annual visit to Leahall, in Cheshire, he spent one day of every week, in the same humane and benevolent business. Public dispensaries were projected, and are still conducted, chiefly by physicians. These excellent institutions mark an æra in the history of human beneficence. They yearly save many thousand lives.

4th. Humanity in physicians discovers itself in *pecuniary* contributions, as well as in advice, for the relief of the poor. I have read an account of a physician in England, who gave all the fees he received on a Sunday, to charitable purposes. Dr. Heberdeen's liberality to the poor was so great, that he was once told by a friend, that he would exhaust his fortune. "No," said he, "after all my charities, I am afraid I shall die *shamefully* rich." Dr. Fothergill once heard of the death of a citizen of London, who had left his family in indigent circumstances. As soon as he was interred,

the doctor called upon his widow, and informed her, that he had, some years before, received thirty guineas for as many visits he had paid her husband in the days of his prosperity. "I have since heard," said the doctor "of his reverse of fortune. Take this purse. It contains all that I received from him. It will do thy family more good, than it will do me." A poor curate, who lived in the city of London upon fifty pounds a year, called upon this worthy man for advice for his wife and five children, who were ill of an epidemic disease, then prevalent in that city. The doctor, without being requested, visited them the next day, and attended them daily till they were all cured. The curate, by great exertions, saved a trifling sum of money, which he offered to the doctor, as a compensation for his services. He refused to receive it....but this was not all....he put ten guineas into his hand, and begged him, at the same time, to apply to him for relief in all his future difficulties*. Similar anecdotes of his liberality might be multiplied without end. It is said, he gave away one half of all the income of his extensive and lucrative business, amounting, in the course of his life, to one hundred thousand pounds. What an immense interest in honour and happiness must this sum produce to him at the general judgment! With what unspeakable gratitude and delight, may we not sup-

* Lettsom's Life of Fothergill.

pose the many hundred, and perhaps thousand persons, whom he has fed, cloathed, and rescued from prison and death by his charities, will gaze upon their benefactor in that solemn day, while the Supreme Judge credits them all, as done to himself, in the presence of an assembled world.

III. Physicians have been distinguished in many instances, for their patriotism. By this virtue, I mean a disposition to promote all the objects of utility, convenience, and pleasure, and to remove all the evils of the country to which we belong. It embraces all the interests and wants of every class of citizens, and manifests itself in a great variety of forms. I shall briefly enumerate them.

1st. It appears in acts of liberality to promote science, and particularly medicine. The British Museum was the gift of a physician to the British nation. Dr. Radcliff founded a library at Oxford, and bequeathed three hundred pounds to be applied to the maintenance of a constant succession of students of medicine, who should spend three years in foreign countries, in search of medical knowledge. Dr. Fothergill gave one hundred guineas a year to Dr. Priestley, to defray the expenses of his chymical laboratory. But the patronage afforded to science by that great man, was not confined to his own country. The Pennsylvania hospital will preserve, I hope, to the end of time, a testimony of his munificence, in the elegant casts and paintings of the gravid uterus, which compose a part of the museum of that institution.

2d. Patriotism in physicians has discovered itself in attempts and plans to obviate the prevailing diseases of their native country. Hippocrates was once invited by the kings of Illyria and Peonia, to come to the relief of their subjects, who were afflicted by the plague. He inquired of the messenger, into the course of the winds in those countries. Upon being informed of their direction, he concluded the same disease would visit Athens, and declined the honour intended him, that he might devote himself immediately to the means of saving a city of his own country from destruction. A physician delivered Calcutta from an epidemic malignant fever, by pointing out a new and effectual mode of conveying off its filth. The city of Frankford, in Germany, was saved from an occasional pestilence, by a physician tracing its origin to a number of offensive privies. The physicians of all the cities in the United States (Philadelphia excepted), have, with nearly perfect unanimity, derived our annual bilious plague from domestic sources, and recommended remedies for it, which, if adopted, would ensure a perpetual exemption of our country from it. The many excellent treatises upon the means of preventing diseases, from errors in diet, dress, exercise and the like, that have been published by physicians in all ages and countries, shew that self-love is a weaker principle in them, than a regard to the general health and welfare of their fellow-citizens.

3d. Physicians have contributed largely to the prosperity of their respective countries, by recom-

mending and patronizing plans for promoting agriculture, commerce, morals and literature. Dr. Fothergill's garden at Upton, was a kind of hot-bed of useful plants, for the whole nation. His active mind was always busy in devising public improvements that were calculated to increase the wealth, the knowledge, the happiness and even the elegance of his country. Dr. Black, Dr. Home and Dr. Hunter, have all benefitted the British empire, by the application of their chymical researches to national purposes, particularly to agriculture and manufactures.

4th. Physicians have in all ages exhibited an attachment to the independence, peace, and liberties of their country. Hippocrates by his influence in forming an alliance with the Thessalians, delivered his native island of Cos from a war with the Athenians. Dr. Fothergill spent years of anxiety in fruitless efforts to prevent the effusion of kindred blood, in the war which separated the United States from Great-Britain. He likewise suggested a plan for securing a perpetual peace between the nations of Europe, by the ties of interest, founded upon commerce. There was not a state in our Union, during the late struggle with Great-Britain for our independence, which did not furnish instances of this form of patriotism in physicians. Warren and Mercer both turned their backs upon profitable and extensive business, when they led their countrymen into the field, and fell at the head of their troops, bravely fighting for

the liberties of their country. Many of the most distinguished characters in medicine, in Europe, are friends to liberty, and a great majority of the physicians in the United States, are warmly attached to the principles, and form of our excellent republican constitution.

If you feel, gentlemen, in hearing these details of the exploits of the illustrious worthies of our profession, as I do in relating them, you will not regret the day, you devoted yourselves to the study of medicine.

But there are certain minor virtues which have adorned the characters of physicians, that should not pass unnoticed in this place.

1st. They have often discovered the most extraordinary instances of candour, in acknowledging mistakes both of opinion and practice. Hippocrates has left a testimony against himself, of the loss of a patient, from his inability to distinguish between a suture, and a fracture of the skull; and Dr. Sydenham tells, that he generally lost several of the first patients whom he visited in a new epidemic. This candour is the more meritorious in physicians, as it seldom fails to lessen their credit with the world.

2d. The most disinterested and exalted acts of generosity, have often been exhibited by physicians to each other. Dr. Friend was once confined for an offensive act against the British government. During this time, Dr. Mead attended his patients. After his liberation, Dr. Mead called upon him,

and gave him several thousand guineas. "Take them," said Dr. Mead. "They are not mine. I received them all from your patients." This act was the more meritorious, as they were competitors for business and fame. Similar instances of generosity are common among physicians, though upon a less scale, in all countries.

3d. The most delicate friendships have often subsisted between physicians. Dr. Fothergill and Dr. Russell were cotemporaries in the college of Edinburgh. They passed the greatest part of their lives in a constant exchange of kind offices. The eulogium upon Dr. Russell, delivered before the society of physicians, in London, by Dr. Fothergill, does equal honour to the characters of each of them.

4th. Physicians often perform essential services to the families in which they are employed, by directing the education of their children, by preventing, or healing family disputes, and by their advice and influence in the pursuits and management of the common affairs of life.

5th. As sons, brothers, and parents, physicians have often exhibited the most shining examples of domestic virtue. Dr. Tissot was invited to Warsaw, by the late king of Poland, in order to become the physician of his court. He prepared immediately to accept the offer, but upon being told by his aged father, that he would not accompany him, the doctor declined the royal invitation, and ended his days in an obscure situation, in his

native country. One of the last journies of Dr. Fothergill's life was to pay a tribute of respect to his father's grave in Yorkshire. He was accompanied in this journey by his sister, who had been his companion, and housekeeper for forty years. I shall give an account of this pious excursion in his own words. "To see that our father's sepulchre was not laid open to the beasts of the field, but secured from the ravages of neglect, was to us a pleasing duty. Firmly persuaded that we had not the least cause to mourn upon his account; and nothing left more becoming us, than to call to mind his precepts, and examples, we left the solitary spot with hearts full of reverent thankfulness, that *such* was our father, and that we were *so far* favoured, as to be able to remember him with gratitude and affection."

From a review of what has been said of the vices and virtues of physicians, the following inferences may fairly be deduced.

1st. That their vices are fewer in number, and of less magnitude, than their virtues.

2d. That the profession of medicine, favours the practice of all the religious, moral and social duties. A physician of course who is a bad man, is more inexcusable than a bad man of any other profession, a minister of the gospel excepted.

3d. That the aggregate mass of physical misery that has existed in the world, owes more of its relief to physicians, than to any other body of men.

Let us learn then, gentlemen, duly to appreciate the profession we have chosen, by acting agreeably to the duties it imposes, and the honours it has acquired. With this short application of the subject of our lecture, I bid you welcome to our school of medicine! The door you have entered, and the room you now occupy, are devoted to Science and Humanity. Let nothing incompatible with the time and attention which they claim, ever find a place within these walls. As far as it shall please God to enable me, by the continuance of my health, you may rely upon my seconding your diligence, and that I shall consider my obligations to you, as my chief duty during the winter.

LECTURE VI.

UPON

THE CAUSES WHICH HAVE RETARDED

THE

PROGRESS OF MEDICINE,

AND

THE MEANS OF PROMOTING

ITS CERTAINTY AND GREATER USEFULNESS.

DELIVERED NOVEMBER 3d, 1801.

GENTLEMEN,

THE imperfection of medicine is a common subject of complaint, by the enemies of our profession. It has been admitted by physicians. The design of this lecture is, to enumerate the causes which have retarded its progress; and to point out the means of promoting its certainty, and greater usefulness. The subject is an interesting one, and highly proper as an introduction to a course of lectures upon the institutes and practice of medicine. I shall begin by briefly enumerating the causes which have retarded the progress of our science.

1st. The first cause that I shall mention is, connecting it with such branches of knowledge, as have but a slender relation to it. What affinity

have the abstruse branches of mathematicks with medicine? and yet, years have been spent in the study of that science by physicians, and volumes have been written to explain the functions of the body, by mathematical demonstrations.

2d. The neglect to cultivate those branches of science, which are most intimately connected with medicine. These are chiefly, Natural History, and Metaphysicks. In the former, I include, not only botany, zoology, and fossiology, but comparative anatomy and physiology. In the latter, I include a simple history of the faculties and operations of the mind, unconnected with the ancient nomenclature of words and phrases, which once constituted the science of metaphysicks.

3d. The publication of systems and discoveries in medicine, in the Latin language. Our science is interesting to all mankind, but by locking it up in a dead language, which is but partially known, we have prevented its associating with other sciences, and precluded it from attracting the notice and support of ingenious men of other professions. While the study of chymistry was confined exclusively to physicians, it was limited in its objects, and nearly destitute of principles. It was from the laboratories of private gentlemen, and particularly of Priestley, Cavendish, and Lavoisier, that those great discoveries have issued, which have exalted chymistry to its present rank and usefulness among the sciences. The same remark applied to agriculture and manufactures, while they were carried on by

the daily labour of men who derived their subsistence from them. It is only since they have become a part of the studies and employment of speculative men of general knowledge, that they constitute the basis of individual and national prosperity and independence.

4th. An undue attachment to great names. Hippocrates, Galen, and Aræteus, among the ancients; Boerhaave, Cullen, and Brown, among the moderns, have all, in their turns, established a despotism in medicine, by the popularity of their names, which has imposed a restraint upon free inquiry, and thereby checked the progress of medicine, particularly in the ages and countries, in which they have lived.

5th. An undue attachment to unsuccessful, but fashionable modes of practice. Where a medicine does not generally cure a disease, in its recent state, it is either an improper remedy, or it is given at an improper time, or in an improper quantity. In such cases, a mode of practice, directly opposed to the former one, has sometimes proved successful. This occurred in a remarkable manner, when cool air and cold drinks succeeded the hot regimen, in the treatment of the small-pox. The same happy effects have attended the use of bleeding in the inflammatory state of dropsy, after stimulating medicines had been given to cure it, for many years to no purpose.

6th. Indolence and credulity in admitting things to be true, without sufficient examination. The acrid humours of Boerhaave would not have

prevailed so long in our systems of pathology, had the blood been sooner subjected to a natural and chymical analysis, nor would a belief in the specific nature of the plague, or the competency of quarantines to prevent the importation of the yellow fever, have been so universal in the beginning of the nineteenth century, had the facts, which are numerous and plain upon those subjects, received a faithful and candid investigation.

7th. Neglect in recording the rise, progress, and symptoms of epidemic diseases, and of certain circumstances essentially connected with them. The loss which our science has sustained from the want of regular and connected histories of epidemics, may be estimated by the value of the knowledge, which it has gained from the writings of Ballonius and Riverius in France, and of Sydenham, Wintringham, and Huxham, in Great-Britain. The yellow fever has prevailed in this city, four times between the years 1699 and 1793, and yet no history of its origin, symptoms, or treatment, has been left to us by any of the physicians, who witnessed it, nor is there any record but one, of the times of its appearance, to be found, except in the letter-books of merchants, and in ancient newspapers. Had our ancestors in medicine transmitted to us the history of that epidemic, with an account of the diseases which preceded it, and of the changes in the air, and in the animal and vegetable kingdoms, with which it was accompanied; it is probable, we might have predicted the malignant constitution of

the atmosphere that produced the fevers of 1793, and of subsequent years, and by removing the filth of our cities, have thereby prevented them. Upon this subject, it may be added, that it is by studying diseases as they have appeared, in different countries, and in different years, that we shall be able to understand and cure them, much better than by reading abstract treatises upon them in systems of medicine, in which no notice is taken of their relations to time and place. Dr. Cleghorn's Account of the Diseases of Minorca, has outlived many hundred publications upon the diseases which he has described. Such excellent books owe their duration and fame to the difference which they mark in the symptoms and mode of cure of diseases in different countries, and in successive years. Even the signs of life and death, are varied by both those circumstances. In a malignant fever, which prevailed at Cuneum, in the years 1778, and 1784, a mortification in the extremity of the spine and buttocks, was always the sign of a recovery, while the same symptom as uniformly preceded death, in a fever which prevailed at Modena, in the year 1781*. I shall mention several other instances of the same signs being followed by an opposite issue in different years, in the late pestilential epidemic of our country.

8th. Neglect to record *minute* symptoms in the history of diseases. Hippocrates and Syden-

* Burserus, p. 497.

ham are justly exempted from this charge against our profession. Had their method of examining and describing diseases been generally followed, we should not, this day, complain of so much imperfection in our science. A disease is a lawless evil. To understand its nature from its symptoms, it should be inspected every hour of the day and night. It is, during the latter period, fevers most frequently have their exacerbations and remissions, and it is only by accommodating our remedies to them, that the practice of medicine can become regular and successful. How much is to be learned from sitting up with sick people, may be known from conversing with sensible nurses. I have profited by their remarks, and I have often imposed their duties upon my pupils, in order, among other things, to increase their knowledge of diseases.

9th. The neglect to discriminate between the remote and exciting causes of diseases. Under the influence of this negligence, the death of many persons from the miasmata which produce the yellow fever, has often been ascribed to the full meal, the intoxicating draught, the long walk, or the night air, which excited them into action.

10th. The neglect to ascertain the nature, and strength of diseases by the pulse, or an exclusive reliance upon its frequency for that purpose, and that too only in morbid affections of the sanguiferous system.

11th. The neglect to employ the passions as remedies in the cure of diseases. An accidental

paroxysm of joy, fear, or anger, has often induced a sudden and favourable crisis in cases of doubtful issue. Quacks owe a great deal of their occasional success, to their command over the feelings of their patients. The advantages to be derived from them might be an hundred times greater, were they properly directed by regular bred physicians.

12th. An undue reliance upon the powers of nature in curing diseases. I have elsewhere endeavoured to expose this superstition in medicine, and shall in another place mention some additional facts to show its extensive mischief in our science.

13th. The practice among physicians of waiting till diseases have evolved their specific characters before they prescribe for them, thus allowing them time to form those effusions, and obstructions which frequently produce immediate death, or a train of chronic complaints.

14th. The great and unnecessary number of medicines which are used for the cure of diseases. Did we prescribe more for their state, and less for their name, a fourth part of the medicines now in use, would be sufficient for all the purposes intended by them. By thus limiting their number, we should acquire a more perfect knowledge of their virtues and doses, and thereby exhibit them with more success.

15th. The exhibition of medicines, without a due regard to the different stages of diseases.

Bark, opium, and mercury, are remedies, or poisons, according as they are accommodated, or not, to the existing state of the system. The same may be said of many of the most simple articles in the materia medica. Bathing the feet in warm water, often prevents a fever in its forming state. The same remedy when used after the fever is formed, often induces delirium, and other symptoms of a dangerous and alarming nature.

16th. An exclusive dependence upon some one medicine, or one class of remedies. Bleeding, purges and vomits, sweating medicines, hot and cold water, ice and snow, baths of different kinds, opium and bark, crude quicksilver, and calomel, iron and copper, acids, and alkalies, lime and tar-water, fixed air and oxygen, have all been used separately by physicians, in diseases which required in their occasional changes, the successive application of many different medicines of opposite virtues, or a variety of the same class of medicines. This exclusive attachment to one set of remedies has not been confined to individual physicians. Whole nations are as much distinguished by it as they are by language and manners. In England, cordial and sweating medicines; in France, bleeding, injections, and diluting drinks; in Germany, alterative medicines; in Italy, cups and leeches; in Russia, hot and cold baths, and in China frictions, constitute the predominating and fashionable remedies in all their respective diseases.

17th. The neglect to inquire after, and record cures which have been performed by time, by accident, or by medicines, administered by quacks, or by the friends of sick people. By examining the precise condition of the system, and stage of diseases in which such remedies have produced their salutary effects, and afterwards regulating them by principles, great additions might have been made to our stock of medical knowledge.

18th. The neglect to dissect, and examine morbid bodies after death, and where this has been done, mistaking the effects, for the causes of diseases.

19th. The attempts which have been made to establish regular modes of practice in medicine, upon experience without reasoning, and upon reasoning without experience.

20th. The dependent state of physicians, upon public opinion for their subsistence. It is this which has checked innovation in the practice of medicine, and too often made physicians the apothecaries of their patients. To a dependence of our profession upon commerce, we are in part to ascribe the belief of the importation of pestilential diseases in nearly all the large cities in Europe and America.

21st. The interference of governments in prohibiting the use of certain remedies, and enforcing the use of others by law. The effects of this mistaken policy has been as hurtful to medicine, as

a similar practice with respect to opinions, has been to the Christian religion.

22d. Conferring exclusive previleges upon bodies of physicians, and forbidding men of equal talents and knowledge, under severe penalties, from practising medicine within certain districts of cities and countries. Such institutions, however sanctioned by ancient charters and names, are the bastiles of our science.

23d. The refusal in universities to tolerate any opinions, in the private or public exercises of candidates for degrees in medicine, which are not taught nor believed by their professors, thus restraining a spirit of inquiry in that period of life which is most distinguished for ardour and invention in our science. It was from a view of the prevalence of this conduct, that Dr. Adam Smith, has called universities the "dull repositories of exploded opinions." I am happy in being able to exempt the university of Pennsylvania, from this charge. Candidates for degrees are here not only permitted to controvert the opinions of their teachers, but to publish their own, provided they discover learning and ingenuity in defending them.

24th. The last cause I shall mention, which has retarded the progress of medicine, is the division of diseases into genera and species by means of what has lately received the name of nosology. Upon this part of our subject, I shall be more particular than was necessary, under any of the

former heads of our lecture, for no one of the causes which has been assigned of the imperfection of our science, has operated with more effect than the nosological arrangement of diseases. To expose its unfriendly influence upon medicine, it will be proper first to repeat in part, what I have published in the fourth volume of my Inquiries and Observations, before I proceed to mention the manner of its operation.

1st. Nosology presupposes the characters of diseases to be as fixed as the characters of animals and plants: but this is far from being the case. Animals and plants are exactly the same in all their properties, that they were nearly six thousand years ago, but who can say the same thing of any one disease? They are all changed by time, and still more by climate, and a great variety of accidental circumstances. But the same morbid state of the system often assumes in the course of a few days, all the symptoms of a dozen different genera of diseases. Thus a malignant fever frequently invades every part of the body, and is at once, or in succession, an epitome of the whole class of prexiæ in Dr. Cullen's Synopsis.

2d. The nosological arrangement of diseases has been attempted from their causes and seats. The remote causes of diseases all unite in producing but one effect, that is irritation and morbid excitement, and of course are incapable of division. The proximate cause of diseases, is an unit, for whether it appears in the form of convulsion,

spasm, a prostration of action, heat, or itching, it is alike the effect of simple diseased excitement. The impracticability of dividing diseases into genera and species, from their seats, will appear when we consider the feeble state of sensibility in some of the internal organs, and the want of connection between impression and sensation in others, by which means there is often a total absence of the sign of pain, or a deceitful and capricious translation of it to another part of the body, in many diseases. In the most acute stage of inflammation in the stomach, there is frequently no pain, vomiting, nor sickness. The liver in the East-Indies, undergoes a general suppuration, and sometimes a partial destruction, without pain, or any of the common signs of local inflammation. Dr. Chisholm, in his essay upon the malignant West-India fever, mentions its fatal issue in two sailors whom he dissected, in one of whom he discovered great marks of inflammation in the lungs, and in the other, a mortification of the right kidney, but in neither of them, he adds, was perceived the least sign of disease in those viscera, during their sickness*. Baglivi found a stone in the kidney of a man, who had complained of a pain only in the kidney of the opposite side, during his life. I have lost two patients with abscesses in the lungs, who complained only of a pain in the head. Neither of them had a cough, and one of them

* Vol. i. p. 184.

had never felt any pain in his breast or sides. Many hundred facts of a similar nature, are to be met with in the records of medicine. Even in those cases where impression does not produce sensations in remote parts of the body, it is often so diffused by means of what has been happily called, by Dr. Johnson, "an intercommunion of sensation," that the precise seat of a disease is seldom known. The affections of the bowels and brain furnish many proofs of the truth of this observation.

Errors in theory, seldom fail of producing errors in practice. Nosology has retarded the progress of medicine in the following ways.

1st. It precludes all the advantages which are to be derived from attacking diseases, in their forming state, at which time they are devoid of their nosological characters, and are most easily and certainly prevented or cured.

2d. It has led physicians to prescribe exclusively for the names of diseases, without a due regard to the condition of the system. This practice has done the most extensive mischief, where a malignant or inflammatory constitution of the atmosphere has produced a single or predominating epidemic, which calls for the same class of remedies, under all the modifications which are produced by a difference in its seat, and exciting causes.

3d. It multiplies unnecessarily the articles of the materia medica, by employing nearly as many medicines, as there are forms of disease.

I know it has been said, that by rejecting nosology, we establish indolence in medicine, but the reverse of this assertion is true; for if our prescriptions are to be regulated chiefly by the force of morbid excitement, and if this force be varied in acute diseases by an hundred different circumstances, even by a cloud, according to Dr. Lining, lessening, for a few minutes, the light and heat of the sun, it follows, that the utmost watchfulness and skill will be necessary to accommodate our remedies to the changing state of the system.

I have thus, gentlemen, briefly pointed out the principal causes, which have retarded the progress of our science. It remains now, that I mention the means of promoting its certainty and greater usefulness. It will readily occur, that this is to be done, by avoiding all the causes, which have produced its present state of imperfection. I shall select, from those causes, a few that have been hinted at only, and which, from their importance, require further amplification.

1st. Let us strip our profession of every thing that looks like mystery and imposture, and clothe medical knowledge in a dress so simple and intelligible, that it may become a part of academical education in all our seminaries of learning. Truth

is simple upon all subjects, but upon those which are essential to the general happiness of mankind, it is obvious to the meanest capacities. There is no man so simple, that cannot be taught to cultivate grain, and no woman so devoid of understanding, as to be incapable of learning the art of making that grain into bread. And shall the means of preserving our health by the culture and preparation of aliment, be so intelligible, and yet the means of restoring it, when lost, be so abstruse, as to require years of study to discover and apply them? To suppose this, is to call in question the goodness of the Supreme Being, and to believe that he acts without unity and system in all his works. In no one of the acts of man do we behold more weakness and error, than in our present modes of education. We teach our sons words, at the expense of things. We teach them what was done two thousand years ago, and conceal from them what is doing every day. We instruct them in the heathen mythology, but neglect to teach them the principles of the religion of their country. We teach them to predict eclipses, and the return of comets, from which no physical advantages worth naming, have ever been derived; but we give them no instruction in the signs which precede general and individual diseases. How long shall the human mind bend beneath the usages of ancient and barbarous times? When shall we cease to be mere scholars, and become wise philosophers, well-informed citizens, and useful men?

The essential principles of medicine are very few. They are moreover plain. There is not a graduate in the arts, in any of our colleges, who does not learn things of more difficulty, than a system of just principles in medicine.

All the morbid effects of heat and cold, of intemperance in eating and drinking, and in the exercises of the body and mind, might be taught with as much ease as the multiplication-table.

All the knowledge which is attainable of diseases by the pulse, might be acquired at a less expense of time and labour, than is spent in committing the contents of the Latin grammar to memory.

The operation of bleeding might be taught, with less trouble than is taken to teach boys to draw, upon paper or slate, the figures in Euclid.

A knowledge of the virtues and doses of the most active and useful medicines, might be acquired with greater facility, and much more pleasure, than the rules for composing syllogisms laid down in our systems of logic.

In support of the truth of the opinions I am now advancing, let us take a view of the effects of the simplicity, which has been introduced into the art of war, by one of the nations of Europe. A few obvious principles have supplied the place of volumes upon tactics, and private citizens have become greater generals; and peasants, more irresistible soldiers in a few weeks, than their predecessors in war were, after the instruction and experience of

fifteen or twenty years. Could changes equally simple and general, be introduced by means of our schools into the practice of medicine, no arithmetic could calculate its advantages. Millions of lives would be saved by it.

In thus recommending the general diffusion of medical knowledge, by making it a part of an academical education, let it not be supposed that I wish to see the exercise of medicine abolished as a regular profession. Casualties which render operations in surgery necessary, and such diseases as occur rarely, will always require professional aid; but the knowledge that is necessary for these purposes may be soon acquired, and two or three persons, separated from other pursuits, would be sufficient to apply it to a city consisting of forty thousand people.

2d. To promote the certainty and greater usefulness of our science, let us study the premonitory signs of diseases, and apply our remedies to them, before they are completely formed. At this time they generally yield to the most simple and common domestic medicines, for there is the same difference between their force, in their forming state, and after they have put forth their strength in the reaction of the system, that there is between the strength of an infant, and of a full grown man. This important truth has been long, and deeply impressed upon my mind, and many of you can witness, that I have often recommended it to your attention. To all physical evils I believe there are

certain precursors, which if known and attended to, in due time, would enable us to obviate them. Premonitory signs I am sure occur before all diseases. They are most evident in fevers, in the gout, in apoplexy, epilepsy, melancholy, and madness. They even obtrude themselves upon our notice, as if to demand the remedies which are proper to arrest the impending commotions in the system. This is more obviously the case in those diseases which when formed, are difficult to cure. In one of my publications in the year 1793, I asserted, that the yellow fever was as much under the power of medicine as the influensa, or an intermitting fever. This was strictly true in the beginning of the epidemic of that year, and continued to be so, until a belief in the prevalence of a fever of less danger, produced delays in sending for physicians, or negligence in using the simple remedies that were recommended in the forming state of the reigning epidemic. In our lectures upon the practice of physic, I shall mention those remedies, and shall repeat to you the importance of watching the exact time in which they may be exhibited with safety and success.

3d. Let our inquiries be directed with peculiar industry and zeal, to complete the natural and morbid history of the pulse. It is the string which vibrates most readily with discordant motions in every part of the body. Were I allowed to coin a word, I would call the pulse the *nosometer* of the system. There is the same difference in the

knowledge of diseases which is obtained by it, and by their other signs, that there is between speech, and inarticulate sounds. The eyes and countenance cannot always be inspected, without exposing sick people to pain and danger from the irritation of light. The tongue cannot be seen in children, nor in the delirium of a fever. Its appearance moreover is liable to be so changed by aliment and drinks as to obliterate the effect of diseases upon it. It is often unsafe to preserve the excretions, and when examined, they afford uncertain marks of the state of the system. None of these objections apply to the pulse. It can be felt in persons of all ages, at all times of the day and night, and in all diseases, and always without any inconvenience to a patient. I shall shortly lay before you the facts and reasonings which have been the result of my observations upon it. They are as yet limited, and very imperfect, but they will serve I hope, like a distant view of a new and fertile country, to excite your desires to explore it, and to add its products to the treasures of medicine.

The fourth and last means of promoting certainty in medicine, and its more extensive usefulness, is to cherish a belief, that they are both attainable and practicable. "Knowledge" it has been justly said, "is power, and philosophy, the empire of art over nature." By means of the knowledge which has lately been obtained, men now visit the upper regions of the air and the bottom

of the ocean, as if they were a part of their original territory. Distance and time have likewise become subject to their power, by the invention of instruments for accelerating the communication of new and important events. Equally great, and far more interesting have been the triumphs of medicine within the last thirty years. Fevers have been deprived of their mortality by attacking them in their forming state, and where this has not been done, they have been made to yield to depleting, or tonic remedies, where they have been properly timed. The small-pox has been disarmed of its remnant of power over human life, by means of vaccine inoculation. But medicine has lately done more. It has discovered those fevers, which have desolated cities and countries, to be derived, in all cases, from putrid and local exhalations, and that they are propagated only by a morbid constitution of the atmosphere. It is true, this discovery has not been generally admitted, but the error, which is opposed to it, has received a blow from the publications of our countrymen, Dr. Mitchell, Mr. Webster, and Dr. Caldwell, from which it cannot recover. Its total destruction will be followed by the same extinction of pestilence, which commerce has produced of famine in Europe, by the level it has introduced of the means of subsistence. The gout, dropsies, hæmorrhages, pulmonary consumption, are now cured, when they are treated as symptoms of general fever. Cancers are easily prevented, by the extirpation of tumours

in glandular parts of the body. The tetanus has seldom resisted the efficacy of stimulating medicines, where an exclusive reliance has not been had upon any one of them. But modern discoveries have not stopped here. They have taught us to renew the motions of life, where they appeared to be extinguished by death. Hitherto, resuscitation has been confined only to persons, who have been supposed to be dead from drowning, or from other accidents; but the time, I believe, will come, when the labours of science and humanity will be employed in recovering persons, who appear to die from other causes. We are authorised to adopt this opinion by the late discovery of the causes of animal life, and by the light which the external and internal appearances of the body after death from fevers, has thrown upon this subject. Motion, which is one of the operations of life, certainly continues, after persons, who have had fevers, are supposed to be dead. This is evident, in the accumulation of heat in particular parts of the body, in the absorption and diffusion of stagnating fluids, in the change of the countenance from a gloomy, to a placid form, in the occasional appearance of a red colour in one, or in both the cheeks, and in the sudden diffusion of a yellow colour over the whole or a part of the body, in persons who die of malignant bilious fevers. But this motion in the external surface of the body, has gone much further. Sweats have been observed to take place for many hours, and

in one instance, several days after death, from the maniacal state of fever. The stiffness of the limbs, which so soon succeeds death, is probably, in many cases, the effect of general convulsion, and may hereafter be discovered to be nothing but a chronic spasm of the muscular system. The internal appearances of the body after death, from fevers, still more favour the idea of the possibility of extending the means of resuscitation with success to persons supposed to be dead from those diseases. I shall hereafter teach you, that death from a fever, is induced by one or more of the three following causes.

1st. The disorganization of parts essential to life, by means of great excess of morbid excitement, by congestion, inflammation, or mortification.

2d. By such a change in the fluids, as renders them unfit for the purposes of life.

3d. By the exhausted state of the excitability, and excitement of the system, which renders it incapable of being acted upon by the stimulus of medicine. Death, from the two last causes, rarely occurs in acute fevers, which terminate in less than eleven days. Dissections shew some viscus to be in a state of disorganization, nearly in all cases, but this disorganization is often of so partial a nature, as to beget a presumption that it might have been removed by the usual remedies for resuscitation. Where life has appeared to be extinguished by the *sudden* loss of excitement or

expenditure of excitability, I believe those remedies might often be employed with success. Such cases probably occur, where patients appear to die in the paroxysm of an intermittent, or under the operation of drastic vomits and purges.

From a review of what has been lately effected by our science, I cannot help admitting with Dr. Hartley, that in that happy period, predicted in the Old and New-Testaments, when religion shall combine its influence upon the passions and conduct of men, with fresh discoveries in medicine, Christian Missionaries shall procure the same credit, and kind reception among Pagan and Savage nations, by curing diseases by natural means, which the Apostles obtained by curing them by supernatural power. Yes, the time, I believe, will come, when, from the perfection of our science, men shall be so well acquainted with the method of destroying poisons, that they "shall tread upon scorpions and serpents" without being injured by them*. And mothers from their knowledge and use of the same antidotes, shall cease to restrain "a sucking child from playing on the hole of the asp, and the weaned child from putting his hand on the cockatrice's den†." Suspended animation, if it should occur in that enlightened state of the world, shall no more expose the subjects of it to premature interment. Pestilential diseases shall then cease to spread

* Luke x. xix. † Isaiah xi. viii.

terror and death over half the globe, for interest, and prejudice shall no longer oppose the removal of the obvious and offensive causes which produce them. Lazarettos shall likewise cease to be the expensive, and inhuman monuments of error and folly, in medicine and in government. Hospitals shall be unknown. The groans of pain, the ravings of madness, and the sighs of melancholy shall be heard no more. The cradle and the tomb shall no longer be related, for old age shall then be universal. Long, long before this revolution in the health and happiness of mankind shall arrive, you and I gentlemen, must sleep with our fathers in the silent grave. But a consolation is still left to us under the pressure of this reflection. If we cannot share in the happiness we have destined for our posterity, we can contribute to produce it. For this purpose let us attempt a voyage of circumnavigation in medicine, by resurveying all its branches in their connection with each other. Let no part, nor function of the body, and no law of the animal œconomy escape a second investigation. Let all the remote causes of diseases, and above all, let the resources of our profession in the materia medica be subjected to fresh examinations. It is probable many new remedies remain yet to be discovered, but most of the old ones, demand new experiments, and observations to determine their doses and efficacy. It is impossible to say how much the certainty of medicine might be promoted, and its usefulness increased, by a more

extensive knowledge of the times, place, manner and means of depletion; by abstracting heat from the body, by means of water and ice, as well as air, and applying it by means of vapour, air, oil, salt, sand and clay, as well as by water; by frictions impregnated with medicinal substances; by the application of stimuli to the skin, and lower bowels where they cannot be retained, or after they have been ineffectually administered through the medium of the stomach; by new modes of exercise and labour, and more specific times of using them; by means of rest; by changes of air, climate, and pursuits in life; by diet, by the quality of cloathing, and forms of dress, by artificial sleep, and wakefulness, by pleasure and pain, by simplicity, composition, succession and rotation, in the use of chronic medicines, and by the extension of the operations of the mind to the cure of diseases. But in vain shall we enlarge our knowledge of all the remedies that have been mentioned, nay more, to no purpose would an antideluvian age be employed in collecting facts upon all the different branches of medicine, unless they can be connected and applied by principles of some kind. Observation without principles, is nothing but empiricism, and however much the contradictions and uncertainty of theories may be complained of, I believe much greater uncertainty and contradictions will be found in the controversies among physicians concerning what are said to be facts, and that too upon subjects in which the senses alone are employed to judge between truth and

error. It is by means of principles in medicine, that a physician can practice with safety to his patients, and satisfaction to himself. They impart caution and boldness alternately to his prescriptions, and supply the want of experience in all new cases. Between such a physician, and the man who relies exclusively upon experience, there is the same difference that there was between sir Isaac Newton, after he completed his discoveries in light and colours, and the artist who manufactured the glasses, by which that illustrious philosopher exemplified his principles in optics. After this account of the necessity and advantages of principles in medicine, you will not be surprised, gentlemen, at my declaring, that both duty and inclination unite to determine me to teach them from this chair. I know from experience, the consequences of contending, in this work, with ancient prejudices and popular names in medicine, with abilities greatly inferior to the contest. But I have not laboured in vain. If I have not removed any part of the rubbish which surrounded the fabric of our science, nor suggested any thing better in its place, I feel a consolation in believing, that I have taught many of your predecessors to do both, by exciting in them a spirit of inquiry, and a disposition to controvert old and doubtful opinions, by the test of experiments. I have only to request you to imitate their example. Think, read, and observe. Observe, read, and think for yourselves.

THE END.